

HYGIENIC COOK BOOK

JACOB ARNBRECHT

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Hygienic Cook Book

A COLLECTION OF CHOICE RECIPES
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Plain Directions on Healthful Cookery; Nutritive Value and Digestibility
of Foods; Proper Food Combinations; Food for the Sick; Weights
and Measures for the Kitchen, including a Course of Lessons
on Healthful Living and Practical Dietetics for Use
in Cooking Classes and Schools of Health

COMPILED BY
JACOB ARNBRECHT

REVISED AND ENLARGED

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BY

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PREFACE

The compiler, in offering to the public this volume of carefully tested recipes, does not claim to have reached perfection, nor to have exhausted the list of wholesome preparations and combinations in the domain of vegetarianism. All extreme views have been carefully avoided, which do more harm than good.

During the last few years much time has been given by scientists to the study of foods and their dietetic value, and rightly this subject should demand much consideration from all.

The writer certainly feels that the time has come when a knowledge of the principles of diet should be an essential part of one's education. It has been the aim to give all directions in a clear, concise manner. Nearly all recipes are given in measure to avoid the trouble of weighing.

CHAPTER I

Food and Dietetics

FOOD—ITS COMPOSITION AND RELATION TO THE BODY

There are few subjects deserving of more careful consideration than that of food; its composition, preparation, and effect upon the human system; together with the process of its conversion into complex animal tissue, as brain or muscle, blood or bone.

It is impossible to decide intelligently how the money available for food shall be distributed among different food materials without understanding something of the composition of these food materials, and of the relation of food to the needs of the body.

The true science of feeding should be thoroughly studied, that we may understand what properties enter into food; what elements the system demands in order to build or repair; by what means the necessary substances are best supplied, and how to prepare them that the body may maintain its efficiency.

BODY BUILDING

The human body may well be compared to a finely constructed machine, which is capable of transforming energy supplied in the form of fuel into other forms of energy—muscular work and heat. As the Automobile engine burns gasoline for fuel the human body burns food.

Any machine in use is constantly wearing out, requiring the renewal of parts. In the body, material for building

new tissue and repairing worn-out tissue is furnished by food. Because of this constant wearing-out process going on in our bodies, we immediately become interested in the building-up process, so that we may keep our body-machines in good working order—or, keep in health. Then besides keeping the machine itself in order, it must be supplied with fuel to burn in order to produce energy or working power.

As the locomotive obtains the necessary conditions from the fuel, water and air which it consumes, so the living body carries on its activities by means of the food, water and air upon which it subsists.

Foods are made up of various elements and it requires different combinations of these elements to furnish the building material and the fuel needed by the body. Therefore, we must find out which are the foods for building-up material and which for fuel.

The two forms of energy with which we are especially concerned in our study of the body are heat and power to work. Heat is required to maintain the body temperature necessary in order that the processes of life may be carried on. The work performed may be considered as of two kinds, internal and external. The internal work is that used in maintaining the different functions of the body itself. The beating of the heart, breathing, the absorption of food, all require the expenditure of energy; this internal work requires a large portion of the available power. As in all machines, energy is lost in the form of radiant heat, but the body is considered an efficient machine because a larger proportion of energy is available for external work than in most engines constructed by man.

The amount of energy required for external work—muscular work, is a variable factor, and the amount of physical activity is consequently important in determining the amount of food necessary.

Definition of Food.—Food is anything which nourishes,

or that which when taken into the body yields heat and energy, and builds up and repairs the tissues of the body.

Food Accessories or Food Adjuncts.—These are substances which, although they have no nutritive value, are extensively used in the dietary to give flavor to foods, to increase the appetite and to furnish pleasing variety; they also stimulate secretion, and thus aid the digestive functions.

They include condiments and beverages. Strong condiments, spices and stimulating beverages, such as: tea, coffee and alcoholic drinks should be excluded from our diet.

Source of Food.—Food occurs in the mineral, plant and animal kingdom; it occurs in all physical forms of matter—gases, liquids and solids. Gases are mentioned because oxygen is a true food and metabolizes to a certain degree, being always present in the blood and tissues in loose chemical combination.

While air is not classified as a food, it is essential to life; combustion cannot take place without it, and all food must be oxidized before it can be utilized by the body.

Function of Food.—We all know in a general way that food nourishes us and makes us strong; but nothing is in the strict sense of the word a food unless it performs at least one of the three functions.

The chief functions of food are: 1—to build body substances; 2—to yield heat and energy; 3—giving power to work.

The first function of food, that of building the body, is exercised not only in the growing child, where the material that can be transformed into bone and muscle, blood and nerve tissue, must be furnished by food, but in the adult, since even after growth has ceased, the constant waste of the body tissue must be repaired by food. So far as this function is concerned, the composition of the body must determine to a great extent the kind of material that may be used as food. It is easy to see that the body

can be built only by foods containing the same elements, and that the proportion of these elements must bear some relation to their proportion in the body. It is reasonable to expect that the elements are combined in food in a way similar to that which they are combined in the body.

Composition of the Body.—The human body is composed of over 60% water and contains many chemical elements in varying amounts. There are over 80 elements in the world; one-fifth, or 16 of the known elements enter into the composition of the human body. (Three are gases, oxygen, hydrogen and nitrogen.) Carbon 21½%, hydrogen 10%, oxygen 62½%, nitrogen 3%, and some of the remaining three per cent are phosphorus, sulphur, iron, chlorine, flourine, sodium, potassium, silicon, magnesium, iodine, calcium and manganese.

These elements are formed into chemical compounds to support the human body, and must be found in the food. All food must be chemically changed after being taken into the body before it can be utilized by the body. This is done by the digestive system.

The body of a man of average weight has been estimated to contain the following amounts of the various combinations known as the proximate principles:

Water	108.00 lbs.
Mineral matter	11.00
Protein	29.75
Fat	5.00
Carbohydrates	.25
Total,	154.00

It will be judged from this that so far as the organic food principles; protein, carbohydrates and fats are concerned, protein holds the chief place as a tissue former, not only must the body have its actual material furnished by the food, but from this also must be derived its energy.

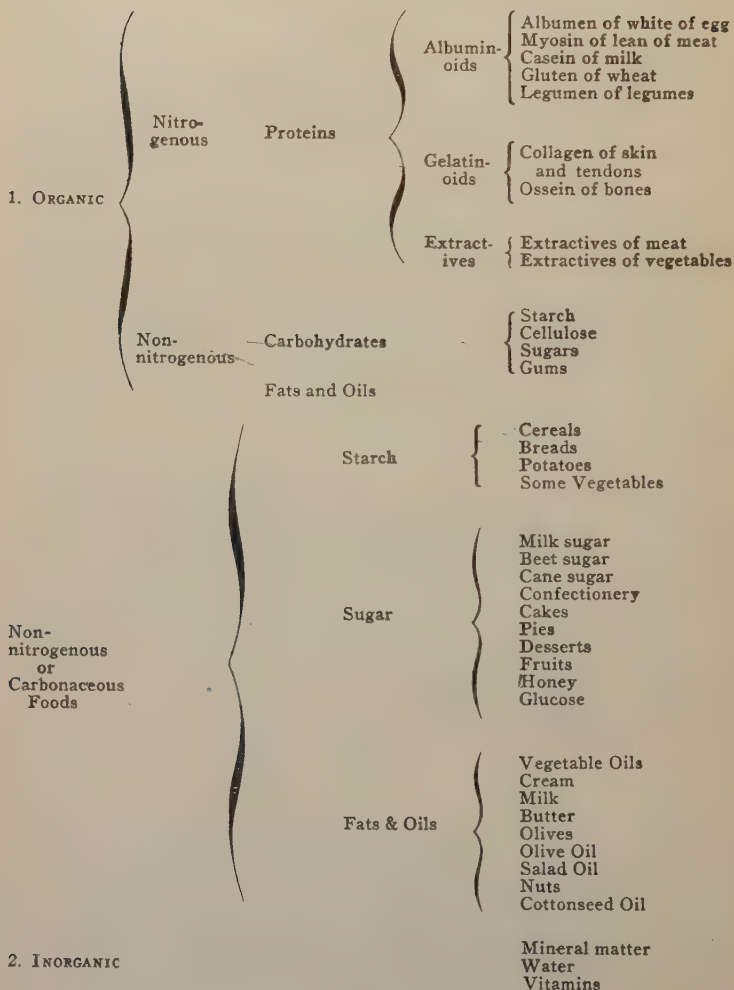
Composition of Food.—The elements found in the body must be supplied by our food and the health of the individual will suffer if these are not properly maintained. Foods must contain the same elements found in the body: thus it is that they are able to build and maintain the body structure.

But no *one food* contains all these elements in proper proportions for all persons; and it is only by combinations of the various food substances that we produce a suitable diet. These elements must be supplied in forms which the body can use. These combinations of elements of "Food Compounds" found in nature are usually classified as proteins, fats, carbohydrates, mineral matter (or salts), water and vitamins.

Food as it is taken into the body still differs in composition from the material utilized by the tissues in growth, repair of waste, and production of energy in the form of work or heat. It must be finally prepared for the use of the body by the processes involved in digestion.

Classification of Food.—Foods may be classified: 1. According to source as animal, vegetable and mineral. 2. According to chemical composition, as organic and inorganic, the organic foods being further subdivided into nitrogenous and non-nitrogenous substances. 3. According to function, as tissue-formers or body builders; energy producers and regulators of body processes.

CLASSIFICATION OF FOOD ACCORDING TO CHEMICAL COMPOSITION



CLASSIFICATION OF FOOD ACCORDING TO FUNCTION

	Energy giving and Fuel Foods	{	Carbohydrates Fats and Oils
	Energy giving and body building foods	{	Protein
	Warmth and work foods	{	Starches Sugars Fats & Oils
Stimulating Materials	Food Adjuncts	{	Condiments and Spices
Body building and body regulating foods or regulators of body processes		{	Cellulose Water Bran Coarse vegetables Vegetable gelatin Mineral matter
Body regulating foods	Vitamins	{	Cream and butter Fresh vegetables Fruits Whole cereals

FIVE PROXIMATE FOOD PRINCIPLES

Proteins	{	Gluten in wheat Albumen in white of egg Myosin in meat Legumen in legumes Casein in milk
Carbohydrates	{	Cereals and Starch—some vegetables Sugar Cane, beet, maple, honey, malt
Fats & Oils	{	Cream, butter Olives Olive Oil Salad Oil Vegetable oils Cottonseed oil Nuts Milk
Mineral matter	{	Ash Cellulose

Water

SPECIAL FUNCTIONS OF EACH FOOD PRINCIPLE

For the successful growing of crops there must be present in the soil a definite number of elements in normal amount and combination. Just so for the normal development of human beings, there must be present in the food these elements in proper amount and proportion.

These are not taken into the body as elements, but are built up first into seven elemental food classes. These seven food classes are: carbohydrates, fats, proteins, vitamins, salts, cellulose and water. Any daily food ration not containing these in proper proportion is defective.

Proteins supply energy, carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorous and sometimes iron.

Fats supply energy in the most concentrated form and is a fuel food. Also contains carbon, hydrogen and oxygen.

Carbohydrates supply energy in the form most economical to the body. The chemical elements are: carbon, hydrogen and oxygen, and include all starches and sugars and is a fuel food.

Mineral Matter supplies building material, except nitrogen and sulphur and helps to regulate body processes. The mineral salts are made up of many different chemical elements and are necessary for blood making and tissue building.

Water supplies building material (forming about 60 per cent of the body's weight) and helps to regulate the body processes. It holds the various salts in solution, it makes up the principal part of all body fluids and secretions and as a circulatory medium, it helps to make it possible for the body to regulate its own temperature.

Cellulose is really a carbohydrate but being practically indigestible is placed in a class by itself. It makes up the woody framework of fruits and vegetables. Its value is

in its bulk which by its presence mechanically stimulates the bowels, thus aiding in normal intestinal peristalsis.

Vitamins.—Our knowledge of which is still somewhat limited, are doubtless the substances out of which the body makes its internal secretions, digestive enzymes, and the ferments of vegetative processes. They are found in raw and in fresh vegetables, in fruits, in raw milk, in outer covering of grains and in raw meat.

Foods Rich in Protein.—Peas, beans, lentils, nuts, cereals, milk, cheese, cow peas, soy beans, meat, peanuts, nut preparations, wheat, eggs: Furnishing tissue-building material.

Foods Rich in Protein and Fat.—Almonds, pinenuts, fish, milk, eggs, cheese, meat—furnishing tissue-building material and fuel.

Foods Rich in Protein and Carbohydrates.—Peas, beans, lentils, peanuts, milk, wheat, oatmeal—furnishing tissue-building material and fuel.

Foods Rich in Fats.—Butter, cream, egg yolks, butter-nuts, ripe olives, vegetable oils, pecans, English walnuts, olive oil, pinenuts—furnishing fuel.

Foods Rich in Carbohydrates.—Sugar, candy, honey, molasses, ripe fruit, starchy vegetables, such as potatoes, corn, cereals—furnishing energy and fuel.

Starchless Vegetables—Artichokes, beets, brussels sprouts, carrots, celery, cucumbers, kohl-rabi, leeks, okra, onions, rutabagas, squash, turnips, tomatoes, soy beans, milk, buttermilk—furnishing bulk.

Starchless and Sugarless Vegetables.—Asparagus, string beans, cabbage, cauliflower, eggplant, endive, lettuce, salify, radishes, spinach, and all greens, tomatoes, celery, cheese—furnishing bulk.

TYPICAL FOODSTUFFS REPRESENTATIVE OF EACH FOOD NUTRIENT

Water	Drinking water	Milk	
	All beverages	Vegetables	
Minerals	Fruits	Meat	
	Eggs	More or less in all foods	
Protein	Drinking water	Vegetables	
	Fruits	Cereals	
	Milk	Whole wheat or graham bread	
	Eggs	Meat	
	Much in:	Less in:	Cereals
	Eggs	Beans	Soy beans
	Meat	Peas	Cow peas
	Cheese	Lentils	Peanuts
	Milk	Nuts	Nut preparations
	Small quantities in all vegetables and fruits		
Fats	Cottonseed oil	Lard	
	Olive oil	Cream	
	Ripe olives	Suet	
	All nuts	Tallow	
	Cheese	Vegetable oils	
	Butter	Small quantities in all vegetables	
Sugar	Pure in:	Glucose	Less in:
	Cane	Honey	Dried fruits
	Beet	Milk sugar	Fresh fruits
	Syrup	Fruit sugar	Molasses
	Maltose	Maple sugar	
Starches	Much in:	Less in:	Small amount in:
	Rice	Peas	Watery vegetables
	Macaroni	Beans	Greens
	White bread	Lentils	String beans
	Cereals	Nuts	Green peas
	Almonds	Whole-wheat bread	Green corn
	Chestnuts	Bran bread	Cabbage
	Starch	Peanuts	Tomatoes
	Sago	Cow peas	Turnips
	Cornstarch	Soy beans—Starchless	Salsify
	Arrow-root		Asparagus
	Tapioca		Squash
	Potatoes		Lettuce
	Bananas		Carrots
Vitamins	Starchy vegetables		Celery
	Cream	Fresh vegetables	
	Butter	Fresh fruits	
	Whole cereals	Milk	

A well balanced meal should have each of these groups represented.

PROTEINS

Definition.—Proteins are food substances which are of great importance to the body. The term "protein" really

means, "of first importance." The protein foods contain such chemical elements as: carbon, oxygen, hydrogen and nitrogen in large proportions; phosphorus, sulphur and iron in smaller proportions. They are absolutely essential for the building and upkeep of the living, active tissue of the body.

Carbohydrates and fats contain carbon, hydrogen and oxygen; but proteins are the only food principles that are able to supply organic nitrogen, an essential element in all living things, animal or vegetable, and one that we must obtain from our food; although we are surrounded by an atmosphere that is nearly four-fifths nitrogen, we cannot utilize it in this form. Only a comparatively small amount is needed, yet that must be supplied or we cannot enjoy perfect health.

Too large a supply of protein is detrimental to health, because while an excess of carbonaceous food can be stored in the body, protein cannot be stored, and an excess of it must be carried off by the excretory organs; and if they are unable to dispose of it, rheumatism, gout, and other similar diseases may result.

Three-fourths of our food should be carbohydrates, one-eighth fat, and the remaining one-eighth proteins.

Composition—Proteins are substances containing the elements, carbon, hydrogen, oxygen, nitrogen, sulphur and frequently phosphorus. The principle constituent of protein is albumen. Albumen as found in food takes different names, but has the same chemical composition. The protein of eggs is albumen; that of meat is called myosin or fibrin; of peas, beans and lentils, legumen or casein; of milk and cheese, casein, and that of wheat, rye and barley, gluten. Gelatin also belongs to this class.

Proteins are made up of simpler substances containing nitrogen, called amino acids. They bear the same relation to protein that dextrose does to starch, that is, amino acids

are the last step in the breaking down of the protein molecule in digestion, but, whereas all the molecules of dextrose which starch yields on hydrolysis are alike, one protein molecule may yield from 12 to 20 different amino acids.

Function.—Proteins have two functions: (1) to yield energy, and (2) to build tissue; their chief work is to build and repair tissue. They are an important part of our food, for they are what our bodies are made of. The body is constantly losing nitrogen, as a waste product from the metabolism of the cells and from the wear of the cell structure. The nitrogen to make up for this loss must be supplied by protein food.

Source.—The proteins of the diet are derived both from the animal and vegetable kingdoms. Protein is found in large quantities in meat, but it is not at all necessary to eat meat in order to get the amount of protein we need. Protein is found in legumes, eggs, milk, grains, and in almost all foods. The entire grain of some cereals possesses a high percentage of protein; this is particularly true of the so-called hard wheat, and in a lesser degree of oats, corn, rye and barley.

The protein element of wheat is called gluten. This may be separated from the starch by making a stiff dough of a good quality of bread flour; then work it carefully with the hands in the cold water and the starch will wash out. Change the water until no more starch washes out and the water remains clear.

You then have a lump of gluten—a grayish, tough, rubbery substance, which requires long slow cooking to make it tender. This gluten may be used in stews or soups after being cooked in salted water for three or four hours or until tender. It may also be baked in a slow oven until thoroughly dried and a delicate brown, then ground into meal or flour as desired.

Differences in Value in Nutrition.—The proteins are

more difficult to understand than the other food principles because different members of the class seem at first sight to have but little in common. If we compare these substances, we find that although at first they seem very different, they yet have certain properties in common. All to a greater or less extent, show the elasticity that is marked in gluten, all are toughened by a high temperature; and all when dried may be ground to powder similar in texture and appearance.

These physical likenesses would hardly be sufficient to place these substances in one group. It is only when we consider the chemical composition of each and the function that each has in the body that we are justified in classing them together as proteins.

The protein molecule is very complex and varies within wide limits. Its nitrogen is always combined with carbon, hydrogen and oxygen, but is combined with these in many different ways to form different kinds of proteins.

A complete protein contains about seventeen of these nitrogenous units: amino acids. Rearrangement of these amino acids makes possible the formation of the tissues that make up the body.

Proteins, in order to repair every kind of tissue, must contain all of these seventeen units, and such proteins are said to be complete. It is evident that all proteins are not of equal value to the body, and that a diet may be deficient in the quality of its protein as well as in the quantity.

While this question is not yet well understood, it has been found by experiments with animals that some proteins will maintain, but will not induce growth. Some of the important amino acids are: tyrosin, tryptophan, leucin, lysin, glycocoll, cystin, hystidin, and arginin. Other proteins that promote growth are glutenin of wheat, glycerin from the soy bean, globulin from squash seed, excelsin from brazil nuts, globulin from corn.

The soy bean contains no starch, and therefore is valuable for persons that cannot eat starchy foods.

CLASSIFICATION OF PROTEINS

A list of various proteins which yield us the organic nitrogenous nutrients in our foods. They are found in both vegetable and animal foods.

ANIMAL FOODS:

Milk—The proteins of milk consist chiefly of two.

1. Casein—the curd; forms about three per cent of the total of the milk. Not soluble in water; coagulated by acid or rennin.
2. Lact—Albumin—forms about one-seventh of the total protein of the milk. Coagulated when the milk is heated for a long time.

Albumin—egg white; soluble in water. Coagulated by heat.

Eggs—Vittellin—in egg yolk; not soluble in water. Coagulated by heat.

Myosin—muscle fibres; not soluble in water. Coagulated by heat.

Meat—Albumin—soluble in water. Coagulated by heat.

Gelatinoids—connective tissue; dissolved by hot water.

Hemoglobin—red; soluble in water; and found in the blood.

PROTEINS OF VEGETABLE AND CEREAL FOODS:

Albumin—in all vegetables.

In wheat—in gluten of flour: glutenin, gliadin, leucosin.

In corn—Zein, globulin.

In beans, peas and lentils—legumin and phaseolin.

In squash seed—globulin.

In soy beans—legumin, glycerin.

In brazil nuts—excelsin.

Cooking of Protein.—In order that the food may be absorbed through the walls of the digestive tract, it must be dissolved in water. Therefore the process of cooking should aid in rendering food more soluble. The white of egg, which is almost pure albumen, is a good example to use in illustrating the best method of cooking protein. While the white of egg is not really soluble, it readily mixes with water; but boiling an egg makes the white hard and tough, so that it will neither dissolve in water nor mix with it, and it is evident that cooking protein at a high temperature hardens and toughens it and renders it less digestible.

A fried egg is even less digestible than a boiled egg, because the hot fat is hotter than boiling water, and it makes the white of egg very tough and leathery.

While the temperature of boiling water is 212 degrees F., albumin begins to coagulate at 145 degrees F., and sets into a jelly at 160 degrees F. Therefore if an egg is cooked in water at 160 or 165 degrees F., the white is jelly-like and tender; while the yolk may be hard, according to the length of time it is allowed to remain in the water.

Effect of Temperature on Protein.—A high temperature has the same effect upon protein, whether it is the protein of eggs or of other foods. Therefore long, slow cooking is the proper method for foods which contain a large amount of protein: such as peas, beans, lentils, and peanuts. Long cooking, even a little below the boiling point, makes them more digestible.

Nuts, with the exception of peanuts, require no cooking. They are best eaten raw, but must be well masticated or ground to a paste before they are eaten. They should not be eaten between meals. They may be chopped and mixed with other foods, such as roasts and some puddings. They may be well combined with legumes, because legumes are deficient in fats, while nuts have an excess of fats.

Peanuts should not be roasted, because they contain a large amount of protein and fat, and neither fat nor protein should be heated to a high temperature.

Peanuts are really not a nut, but a ground-pea, and should be cooked in the same way. Chestnuts, which contain a small amount of fat and protein and a large amount of carbohydrate, may be roasted.

Milk is more digestible raw than cooked, for the reason that a high temperature hardens the casein.

CARBOHYDRATES

All the nutritious materials in foods can be grouped into five great classes. These classes of material are called the food compounds or food principles. A few foods contain but one food principle, some contain several food principles, many contain all the food principles. Carbohydrate is one of the food principles.

Definition.—The term “carbohydrate” covers all simple sugars and all substances which can be converted into simple sugars by hydrolysis. By noticing the name, we can readily see that the first part stands for carbon, the latter part “hydrate” indicates that water might be present; the hydrogen and oxygen are usually present in the proportion to form water, that is, two parts of hydrogen to one of oxygen. (H_2O .)

Carbohydrates ordinarily make up about sixty-five per cent of the total number of calories in our diet. Most carbohydrates, when pure, are either white powders or white crystalline solids, many of them are sweet to the taste. The starches and cellulose are not soluble in cold water, but the sugars are readily soluble.

Composition.—The carbohydrates are composed of the chemical elements: carbon, hydrogen and oxygen. The last two in the proportion in which they are found in water. They include all foods that contain starch and sugar; such as vegetables, fruits, cereals, sugars and gums. Three-fourths of our food should belong to this class of food elements.

Source.—Carbohydrates come from the vegetable kingdom almost entirely. There are a few exceptions, such as glycogen and milk sugar. They abound throughout the plant world, but especially grains, fruits and vegetables. Important sources of carbohydrates for human use are cereals, potatoes, rice, tapioca, sago, sugar, honey and sweet fruits. These are the most important energy producing

foods. Each ounce of pure carbohydrates yields one hundred sixteen calories of heat when burned.

Function.—Carbohydrates are burned up in the body to produce energy in the form of heat and work. All that is taken in excess of immediate need is stored, first as glycogen chiefly in the liver but also in the muscles and other organs. When the capacity to store glycogen is exhausted, the surplus is changed into fats. The fuel value of fat is nearly two and one-fourth times that of sugar and starch, so that this is a very convenient form of storage of surplus carbohydrates.

Classification.—The classification of the carbohydrates is comparatively simple. The principal carbohydrates may be classed in three groups; the monosaccharides, like dextrose or grape sugar, disaccharides, as sucrose or cane sugar, and the polysaccharides, such as starch, dextrin and glycogen.

The term "monosaccharides" means that the sugar molecule contains only one sugar group or molecule, all such are called "simple sugars." "The disaccharides" are sugars which on hydrolysis by enzymes or by boiling with dilute acids split to two molecules of simple sugar. The "polysaccharides" are complex molecules which can be broken down into many molecules of simple sugar.

The following table shows the chief members of these different groups, so far as our food is concerned.

Carbohydrates	Monosaccharides (glucoses)	Grape sugar (dextrose)
		Fruit sugar (levulose)
	Disaccharides (sucroses)	Honey (invert sugar). A mixture of dextrose and levulose.
		Cane sugar
		Beet sugar
		Maple sugar (sucrose)
		Malt sugar (maltose)
		Milk sugar (lactose)
		Malt sugar syrup (maltose)
	Polysaccharides	Starch
		Dextrin
		Glycogen
		Gums
		Cellulose

SUGARS

Definition.—Sugar is a crystalline substance; it differs from starch by its sweet taste and its solubility in cold water; when heated to a high temperature it forms caramel. Sugar is believed to have the same chemical composition as starch that has been digested and made ready for absorption.

Varieties.—The principal kinds of sugar are as follows: Cane sugar, grape sugar or glucose, milk sugar or lactose, malt sugar, fruit sugar, starch sugar or solid glucose.

Source.—The source of the sugar used until a few years ago was from sugar cane, now over half of the sugar used in the world is obtained from the sugar beet.

Grape-Sugar is found in honey and all sweet fruits. It is especially abundantly in grapes, of which it constitutes about 20 per cent of the weight of the fresh fruit. A dried fig contains 65 per cent of grape sugar. Dextrose or grape sugar is a fuel food in one of its most readily absorbed forms. It does not require digestion because this is the form to which carbohydrates of all kinds must be changed before they can be of use to the body. It is about two-thirds as sweet as cane sugar. Commercially it is manufactured from starch by hydrolisis with acids.

Fruit-sugar, levulose, is found in sweet fruits and in honey. It is principally used by diabetic patients. The chief sugar of honey is called invert sugar, and is made up of equal parts of dextrose and levulose; it is an excellent food, and is present in good honey to about 75 per cent.

Cane-sugar is obtained from sugar cane and the sugar beet, their chemical composition is the same. Maple sugar would be the same if it were sufficiently purified to remove the flavoring matter. The white grades are the purest and sweetest; when cane sugar is added to fruits and allowed to cook for some time, it changes to grape-sugar and loses

one-third of its sweetness: therefore it should not be added until the fruit is nearly cooked.

Malt-sugar is obtained from grains, such as barley or wheat, by letting them sprout. During the sprouting process, there is developed in the grain a ferment called "diastase" that is capable of changing starch to malt sugar. After the starch has been changed to malt sugar, the sugar is extracted with water, and this solution evaporated to a sirup. This maltose is a natural product to the body, as it is formed by the saliva and pancreatic juice when they act upon starch.

Milk-sugar or lactose is another important sugar. It is less sweet and much less soluble than cane sugar and does not readily ferment. Because it is of a mild flavor and is less irritating to the digestive tract than sucrose it is a valuable source of fuel for infants and invalids; it is really the most digestible sugar for infants.

Milk-sugar is found in milk: it forms about five per cent of cow's milk. It is obtained as a by-product in the manufacture of cheese; the whey or watery fluid left after the removal of the curd, is evaporated and purified until a fine, white, gritty powder, or a crystalline solid, is obtained. This milk sugar or lactose, is soluble in water, and has a sweet taste. Lactose is one of the essential food elements for the normal growth of a child or a young animal. This shows why children cannot be reared easily without milk.

Starch-sugar or solid glucose is made from corn by inverting the starch, usually by boiling it with dilute hydrochloric acid and refining and evaporating the product. Although it is not as sweet as cane sugar, it is considered perfectly wholesome. The liquid glucose, as well as the solid glucose, is much used by confectioners, because it does not so readily harden and crystallize as cane sugar.

Let us not forget that any of the sugars, taken in large amounts may overload the digestive system and the liver,

and hence they should be used sparingly. The maximum advisable daily allowance of sugar is considered to be about four ounces.

Sugar should be avoided in gastric disorders, and in diabetes, and because it is a very concentrated food it should not be used in cases of obesity.

Substitute for Sugar.—Since sugar is used not only as fuel food but as a condiment, attempts have been made to secure a substitute for use in cases where carbohydrate is limited or denied. The best known of these is "saccharin" or "sweetina," a coal-tar product. It is many times sweeter than sugar, but it has no food value.

STARCH

Starch is the most important of the carbohydrates from the stand-point of food. Starchy foods form a large part of the ordinary diet of man; they are the chief source of the carbohydrates. Starch, unlike sugar, is insoluble but may be made to pass into a soluble form by dry-heating at a high temperature, or by certain digestive ferments. The first substances formed in the course of starch digestion are dextrins; these can be split to maltose, which in turn will yield dextrose.

Description.—It is familiar to us all as the fine, white, glistening powder of "cornstarch" and laundry starch. We may easily obtain it from grated potatoes and from flour, by washing it. Under the microscope it is found to consist of granules, which are insoluble in cold water. When heated to a high temperature, these granules are changed into soluble starch and dextrin. Boiling the starch has the same results. Cooking in water ruptures the starch grains, rendering the contents more readily acted upon by the digestive juices.

Source.—Starch occurs widely in the vegetable kingdom. It is found most abundantly in cereals and potatoes, in some

fruits, and in nuts. It constitutes one-half to three-fourths of the solid matter of the ordinary cereal grains and at least three-fourths of the solids of mature potatoes. The commercial product "starch" is obtained from wheat, corn, rice, potatoes and arrowroot.

Principles of Cooking Starch.—The principles involved in the cooking of starch are of two types, chemical and mechanical.

Chemical Principles.—Since raw starch is digestible only to a slight degree, it is essential to perfect digestion that starchy foods be well cooked. Cold water or the digestive juices have little or no effect upon the cellulose covering. The first point to be gained by cooking is the softening of the cellulose, then the cooking of the starch. All starchy food must be thoroughly cooked. In the presence of moisture, starch becomes semi-soluble at the temperature of boiling water, 212 degrees F. Gruels are made by cooking cereals in water at or near the boiling temperature for a long time, but they should be introduced into boiling water so that the starch granules may be ruptured, thus rendering the contents more readily acted upon by the digestive juices.

It has been found by various experiments that there are five steps in the digestion of starch; three of these may be accomplished by cooking. Baking is the preferable method for vegetables like the potato, because the starch may be subjected to a much higher temperature than by boiling or steaming. By dry heat, at a temperature of 300 to 400 degrees F., starch can be converted to dextrin.

In thoroughly toasted bread the starch has reached the third step in the digestive process, known as dextrin, a substance intermediate between starch and sugar. Such cereals as wheat-meal and corn-meal require prolonged cooking, in order to soften the cellulose and cook the starch.

The frying of starchy foods is not to be recommended,

as frying coats the starch cells with fat, which makes it impossible for the saliva to act upon them. The mouth is the great starch digesting organ of the body, and the saliva (secreted by the salivary glands of the mouth) contains an enzyme which completes the digestive process begun in the cooking.

Mechanical Principles.—When foods composed largely of starch, such as flour, cornstarch, etc., are to be cooked with a liquid, care must be taken to prevent the formation of lumps, for these are not only unsightly, but consist of an outer layer of cooked starch surrounding a center of unchanged material and preventing its being made digestible.

There are three methods of avoiding lumps:

1. By mixing the starch gradually with a small portion of cold water, so that a smooth paste is formed, before adding the boiling liquid. This method is used in making gruels.

2. By mixing with fat before adding liquid. The melting fat separates the starch granules. At least as much fat as starch must be used. If the liquid is added hot, it must be stirred in very gradually. This method is employed in making gravies, sauces, and thickening for soups.

3. By mixing with sugar. The melting sugar serves to separate the starch grains. This method is applied in the case of desserts, such as cornstarch pudding, and is practicable only when the sugar is greater in amount than the starch or flour. Care must be taken to add the liquid gradually.

CELLULOSE

Cellulose is the framework of plants; it is the coarse woody fiber found in plants and in the outer coating of the various grains, it has no nutritive value, but because it is not digested in the human body it forms the larger part of the ballast or bulk of our food which is so necessary to a normal intestinal movement. It stimulates peris-

talsis by acting as a gentle mechanical irritant. Much of our food as we eat it has had most of the cellulose removed in preparing it for the table; for this reason bran is frequently added to food by those who have a tendency to sluggish intestinal movement. The same result can be secured by making the diet consist of a greater proportion of foods which contain a large amount of "roughage" or ballast, such as green vegetables, fruits, and whole grain products.

Gums.—Gums have little or no nutritive value in the human body, and like cellulose act as ballast.

FATS AND OILS

Definition.—Fats are substances having a greasy feeling and taste. They are lighter than water, and leave a grease spot on paper, are insoluble in water, and soluble in such chemicals as gasoline and ether.

Composition.—The fats, like the carbohydrates, are composed of the chemical elements; carbon, hydrogen and oxygen. These elements are put together into two groups, glycerin and fatty acids, which, chemically united form fat. These elements are in very different proportions from that in which they exist in the carbohydrates. There is a much larger proportion of carbon with less oxygen than in starch and sugar, and this accounts for the readiness with which they burn and the intense heat we get from them.

Description.—True fats, whether solid or oily, are chemically compounds of fatty acids with glycerine, and differ among themselves according to the particular fatty acids they contain. Those commonly found in considerable amount in edible fats are stearic, palmitic and oleic acids. The oleates or oleins are solid fats as are also palmitates or palmitins. The oleates or oleins are liquid at ordinary temperature. The softness of butter, oleomargarine and lard,

is due to the amount of olein which they contain. Vegetable oils, (olive, cotton seed, peanut, almond and coconut) contain large amounts of olein.

Lecithin is a substance usually classed with fats and oils, it also contains phosphorus. It is a necessary constituent of every living cell, it is found abundantly in egg yolk, and also in brain and nerve tissue, blood, limph, milk, many seeds and plants.

Volatile Oils.—These have little in common with true oils. They vary in composition, but have a tendency to disappear by evaporation; they are characterized by their odor, taste, and pungency. A few of them are used as flavoring, such as the oil of lemon from lemon peel, and oil of bergamot from the orange. Cooking tends to volatilize them, so they should be added at the last moment.

Source.—They are of both animal and vegetable origin. The chief sources of fat in the diet are milk, (yielding cream and butter), olive oil and other vegetable oils, meat fats and nuts, cereals, legumes and in certain fruits. Recently methods have been devised for changing the unstable oils into stable, lardlike, solid fats. This process is called hydrogenation, in this process hydrogen is added until the fat becomes saturated and less likely to undergo decomposition into fatty acid and glycerin. Fats thus formed seem to be equal to the animal fats so far as digestion and utilization are concerned.

Certain fats, including those of butter and milk, are rich in the so-called, fat-soluble vitamin, and when they are included in the diet in liberal amounts, butter substitutes may be safely used.

Function.—Fat is the most concentrated kind of fuel, furnishing two and one-fourth times as much energy as the same weight of carbohydrates and protein. The chief office of fats and oils is to store energy and heat to be used as needed. They constitute the adipose tissue of the

body. A certain amount of fat is necessary for the proper sustenance of the body. A working man requires from two to three ounces daily. In the natural form, fats are in a state of emulsion, and are then in the proper condition to be used in the body.

Free fat is not only difficult to digest, but it hinders the digestion of other food with which it is mixed. When food is deficient in fat, all the vital functions languish, digestion fails, and there is loss of flesh and strength and loss of ability to resist cold. Fats are not digested in the stomach, so when free fats are mixed with foods that should be digested in the stomach, they cause delay, and often fermentation takes place before the food passes into the intestines where the digestion of fat begins.

The saliva and the gastric juice (the digestive fluids of the mouth and stomach) do not digest fats, and can do but little with starch and albuminous foods when they are mixed and coated over with free fats.

Fats are the greatest heat producers among foodstuffs. A fat is a better fuel than a carbohydrate, because fats contain more carbon and hydrogen (fuel) by weight than do carbohydrates. Carbohydrates contain more oxygen. A typical carbohydrate is cane sugar, $C_2 H_{22} O_{11}$. A typical fat is stearin, $C_{57} H_{110} O_6$, the little solid white particles of fat, seen first when a melted fat begins to harden. This shows that the proportion of carbon and hydrogen is very much greater in fats than in carbohydrates. Therefore, they give more heat when burned. The oxygen for the burning is taken from the air. Fats produce more than twice as much energy as any other food constituent.

Heat furnished by any fuel in burning is measured in heat units called calories, and when the fuel is within our bodies it gives off about the same amount of calories as when burned out of the body.

A calorie is the amount of heat required to raise the

temperature of one gram of water one degree centigrade, or one pound of water four degrees fahrenheit.

Fats, being composed entirely of fuel material in a liquid or easily liquified state, burn very easily, and when a fat burns in cooking its composition changes, and it loses some of the elements which the body would use to transform it into body fuel. In other words, by burning, it is rendered indigestible, and because of careless handling of fats we have learned to say that "Fried foods" are not digestible, because it is so difficult to handle the fat in cooking without it getting too hot.

Digestibility.—Fat has a tendency to check the secretion of gastric juice and to retard the motility of the stomach, thus lessening the rate of digestion. The softer fats and emulsified fats are digested more quickly than those that are harder. Heating fats to a high temperature in cooking decomposes them and produces substances irritating to the membrane of the stomach. Also foods fried in fat are coated with and possibly permeated by it, and thus are more slowly digested.

MINERAL ELEMENTS

Food salts are made up of many different chemical elements and are essential to life and health. In addition to carbohydrates, fats and protein, foods contain inorganic salts, which are necessary for blood making and tissue building, and to maintain the proper alkalinity of all body fluids. They are necessary for the building of bone and nerves. The mineral salts found in vegetables are the substances which keep the blood alkaline, and also prevent the accumulation of waste products in the body.

The value of the mineral elements cannot be measured in food units, but they are just as necessary as the three other food elements. They are found in all animal and vegetable foods; principally in fruits, vegetables, grains and

milk, and are located largely under the skin of fruits and vegetables and in or near the outer covering of grains; chief of which are sodium chloride (common salt), iron, lime, phosphorus, sulphur, potassium, magnesium, calcium, chlorine, fluorine and silica. Iron and lime are among the most essential of all salts. The boiling of vegetables, when the water is thrown away may remove as much as half or even more of the lime and iron and salts of food. Because of unscientific methods of preparing and cooking foodstuffs properly half of the American people are suffering from lime and iron starvation.

FOODS SUPPLYING MINERAL MATTER

Iron.—Spinach, watercress, egg yolks, beef, dried peas, dried beans, lentils, whole wheat, strawberries, prunes, raisins, apples, cabbage, oats, potatoes, lettuce, celery, milk.

Phosphorus.—Whole cereals, legumes, milk, egg yolks, meat, prunes, baked potatoes, cottage cheese, nuts.

Calcium.—Milk, eggs, whole cereals, celery, cabbage, parsnips, citrous fruits, nuts and legumes.

Magnesium.—Meat, whole cereals, spinach, legumes, apples, cherries, milk, prunes, turnips, nuts, figs, raisins.

Potassium.—Potatoes, parsnips, turnips, cabbage, apples, plums, cherries.

Sodium.—Salt, spinach, asparagus, cauliflower, apples, strawberries.

Chlorine.—Salt, spinach, cabbage, cauliflower, turnips.

Sulphur.—Egg yolks, spinach, cauliflower, cabbage, onions.

Lime.—Cottage cheese, milk, egg yolk, legumes, greens.

Fluorine.—Spinach, cauliflower, cabbage, potatoes, asparagus.

Silica.—Oats, barley, onion, cabbage.

Iodine.—Fish, Irish moss, agar-agar, garden vegetables, beans, peas.

FUNCTION OF MINERAL SALTS

Iron is necessary to make red blood.

Spinach contains more iron than any other food.

Phosphorus is necessary for the building of bones, brain and nerves, and is best supplied by the bran of cereals.

Calcium is necessary for building bones and teeth. Milk contains more calcium than any other food. It is also found in considerable quantity in whole cereals.

Potassium is necessary for the construction of the cells of the body. Potatoes contain a large amount of potassium.

Sodium is necessary for the proper constitution of the fluids of the body; it is supplied by common salt and by vegetables and fruits.

Sulphur is one of the constituents of proteins, and therefore is necessary for the construction of the living tissues of the body.

Fluorine and silica are needed for the teeth and bones.

It has been found that a potato diet quickly rids the body of acid poisons, such as uric acid.

The orange is one of nature's finest gifts to man. Orange juice contains pre-digested food in a most delicious and attractive form, ready for immediate absorption and utilization. The amount of food contained in a single large orange is about equivalent to that found in a half slice of bread, but it differs from bread in that it needs no digestion. While bread, before it can be used in energizing and strengthening the body must undergo digestion for several hours. This is the reason why oranges are so refreshing to a feeble person. Orange juice is rich in salts, especially in lime and alkaline salts, which counteract the tendency to acidosis.

OXALIC ACID

Sorrel	2.740 to 3.630%	Cocoa powder...	3.520 to 4.500%
Rhubarb	2.466%	Haricots	0.312%
Black tea	2.466%	Buckwheat	0.171%
Pepper	3.250%	Common beans ..	0.158%
Spinach	1.910 to 3.270%	Lettuce	0.270%
Beet roots	0.390%	Coffee	0.127%

Tomatoes are sometimes classed with foods rich in oxalic acid, but this seems to be an error, as they contain only about one two-hundredth %. Their sour taste is due to the presence of citric acid.

Oxalic acid is a very soluble substance, and can be practically all removed by par-boiling. For this reason, spinach, beet greens, and foods which contain oxalic acid in considerable quantities should always be par-boiled in preparation for the table.

VEGETABLE ACIDS

The principal vegetable acids are as follows:

1. Acetic acid, in wine and vinegar.
2. Tartaric acid, in grapes, pineapples, and tamarinds.
3. Malic acid, much like tartaric acid, in apples, pears, peaches, apricots, gooseberries, and currants.
4. Citric acid, in lemons, oranges, limes, citron, and tomatoes.
5. Oxalic acid, in rhubarb, sorrel, spinach, tea, coffee, pepper, cocoa powder, lettuce and beans.
6. Tanic acid, in gall-nuts.

Some fruits contain two or more acids; malic and citric in strawberries, raspberries, gooseberries, and cherries; malic, citric and oxalic in cranberries.

The above is only a partial list of the different acids found in different foods.

SALT

Of all salts found in the body, the most abundant and valuable is sodium chloride (common salt). It exists in all tissues, secretions and fluids of the body, except in the enamel of the teeth. That salt is an absolute necessity to keep the body in health is an undisputed fact, but the excessive use of salt causes skin eruptions and other derangements of the system. It also interferes with the digestive process.

WATER

Unlike drugs or special appliances, water is accessible to all mankind, and so fills a place of wide usefulness in the prevention and cure of diseases of the human family.

About sixty per cent of the body weight is water. It forms a goodly portion of the blood and is found in every tiny cell of the body structure. We can live longer without food than without water.

Composition and Properties.—Water is composed of the elements hydrogen and oxygen, two parts of hydrogen to one of oxygen. Its chemical formula is written H_2O . Pure water is colorless, odorless and tasteless. It has great solvent power, which causes it to dissolve substances with which it comes in contact.

Water ordinarily contains varying quantities of mineral and organic matter, including gases. To these substances in solution the characteristic flavor is due. Water freezes at 32 degrees F., at 185 degrees F. it simmers, and at 212 degrees F. it has reached the boiling point; except under pressure, water can then become no hotter, fast boiling simply means rapid evaporation and waste of fuel.

Kinds of Water.—There are three different kinds of water used for drinking purposes—rain water, surface water, and ground water, of which rainwater is the purest if properly collected. Surface water, water from lakes,

streams, etc., is most likely to be contaminated with organic matter and bacteria. Ground water, or water from springs or wells is liable to be the hardest, but is usually free from disease germs unless there is some contamination from the surface.

Water Content of Foods.—The water content of foods varies widely. In green vegetables it constitutes from 85 to 95 per cent of the whole substance; in potatoes and some other starchy vegetables it is present in as large amount as 75 per cent. Even in dry foods there may be as much as from 5 to 10 per cent.

Amount of Water Needed Daily.—To drink water is but to follow an instinctive demand of the body, yet it is true that, as a rule, people do not drink sufficient water. Under ordinary circumstances an adult should drink from 3 to 6 pints daily.

The quantity of water excreted per day varies with atmospheric conditions, increasing with hot weather and violent exercise and decreasing in the bed-ridden and sedentary.

Babies and delirious patients should be fed water as carefully as food. The liberal drinking of water promotes good digestion, provided that it is not too cold and is not used to wash down food. It is better to take this in small quantities at frequent intervals, than to deluge the stomach with a large quantity, especially directly following or preceding meals. Ice water should be avoided.

Functions.—Water serves the following purposes in the body: 1. It is an essential constituent of the tissue-cells and of all body fluids, such as blood lymph and the digestive juices. 2. By drinking an abundance of pure, fresh water, the blood and tissues are purified and bathed and so cleansed from all waste and poisonous matter. 3. It dissolves nutritive materials in the course of digestion, making possible their absorption into the blood and lymph.

4. It serves to carry food to various parts of the body and removes waste. 5. It keeps the various mucous membranes of the body soft and prevents friction of their surface. 6. It aids in regulating body temperature. 7. It aids in regulating body processes.

VITAMINS

Recent experimental studies show that most natural foods contain accessory foodstuffs or vitamins which are of very great importance to the body; these bodies have been subdivided into three classes as follows:

1. *Fat-soluble A*, the lack of which in the feeding of small animals causes generally lowered nutrition and a peculiar condition of sore eyes.

2. *Water-soluble B*, which when wanting in the diet seems to be the cause of failure in growth and of an inflammation of the nerves which eventually results in paralysis.

3. *Water-soluble C*, or the antiscorbutic principle, the lack of which results in the production of the disease, scurvy.

Our knowledge of these substances which are necessary to normal growth and maintenance is limited, but doubtless they are the substances out of which the body makes its internal secretions, digestive enzymes, and the ferments of vegetative processes.

Sufficient has been learned and demonstrated about them, however, to show that they play a most important part in nutrition and in vital tissue processes. No one has as yet been able to separate these recently discovered bodies in their purity, but experimental studies have proven beyond question that they are present in many natural foods.

Pigeons for example, fed upon polished rice, gradually fail in health and finally, in twenty to thirty-five days, develop a form of paralysis which can be cured in as many

hours by feeding small quantities of water-soluble B, obtained by extracting rice bran with water. Similar experiments have been carried out on rats and other small animals, all of which prove the presence of these substances in good foods and the value of their use in dietetics. These food substances are present in natural foods in very minute amounts and apparently the body needs only a very small supply to keep it in health.

Source.—Raw cabbage was found to contain five times as much Anti-scurvy vitamin as cooked cabbage. Anti-scurvy vitamin is found to be more sensitive to heat than any other of the vitamins. Milk and greens contain all the most important vitamins, and should be incorporated in the diet of every day.

Remember that if you throw away the water in which vegetables are boiled, you are throwing away the valuable water-soluble vitamin in the sink. The "A," vitamin in potatoes is directly under the thin outside skin, and you lose it, if potatoes are pared, baked potatoes are best.

The fat-soluble A.—This accessory food is found in butter fat, fish oil, animal oleomargarine, some meats, especially liver and kidney and egg yolks. There are also a number of sources in the vegetable world such as spinach, cabbage, peas, yellow corn, sweet potatoes, and orange juice, which may have a very small amount.

The fat-soluble vitamins undergo some deterioration upon heating, the cooking of foods may lessen the amount of this essential. Vegetable sources of this vitamin are more resistant than the animal as a rule. The more highly colored a natural food product is the richer it is likely to be in this ingredient. Failure to supply this vitamin results in lessened nutrition in animals, particular in young ones. There is a decrease in resistance to bacteria, the eyes are apt to show an irritated diseased condition; and lack of

this food in the feeding of young children is said by some to be a cause of rickets.

The water-soluble B. This product was first studied by Funk, one of the first men to study such substances carefully, and it has received more attention and study than fat-soluble A. It is found very widely distributed in vegetable foods. The following is a list: Cereals, peas, beans, spinach, cabbage, potatoes, carrots, onions, turnips, beets, tomatoes, bran, yeast, soy bean, oranges, lemons, grapefruit, apples, pears, prunes, and nuts such as almonds, English walnuts, black walnuts, brazil nuts, chestnuts, and peanuts, milk to some extent. The citrus fruits and nuts stand well up in the list of protective foods of this type.

Failure to supply a proper amount of this dietary essential results in loss of appetite, and failure of growth in young animals. In birds a sort of paralysis develops, and in man its lack is responsible for the disease, Beri Beri, which is frequently encountered in Oriental countries.

Recent investigations show that the water-soluble B vitamin is quite resistant to the ordinary temperature of cooking, but that a rather large amount of the product goes out in the cooking water. This water should, therefore, be used in making food products such as gravies and soups rather than throwing it away as is often the case.

Water-soluble C. This type of protective foods is not classified as vitamin by all, but some authorities seem to think such classification desirable. The foods of this class are protectives against the disease, scurvy and are commonly called antiscorbutic foods. Cases of scurvy are seen frequently in children and were formerly seen among adults where such persons had to go for long periods without any fresh or green foods. Fresh fruits and green vegetables are the best sources of the protective principle. Orange juice is said to be one of the best sources of this

product and is being used a great deal in the feeding of babies as a protection of this sort.

A, *C vitamin* has been isolated, whose specific function seems to be antiscorbutic. *They* are assumed to be present in all fresh foods with a considerable water-content, and are not so highly manufactured, or preserved or dried to an extent to destroy this principle. They are present in milk, lean meat, in all succulent vegetables, in fruit, not present in dried foods, like wheat, oats, nuts, and not in butter and fat, nor molasses or glucose.

Function of Vitamins.—They promote growth, and preserve health and they have both a preventive and curative effect in certain of the so-called deficiency diseases, such as *beri beri*, scurvy, pellagra, rickets and other disorders resulting from faulty nutrition.

Foods that are vitamin dead are sugar, starch, sago, arrow-root, tapioca, or any other fine or highly manufactured form of starch, also absent in highly refined and over-manufactured forms of the cereals such as white rice, flour or meal made from wheat or corn after the germ has been removed, farina, hominy, pearl barley.

The animal body can not manufacture vitamins; it can only gather them from its food. If the diet is deficient in any one of these substances, satisfactory nutrition is impossible.

McCollum says there are three especially protective foods in nature. They are milk, eggs, and green leaves of vegetables. There are other foods which will give the necessary substances but these are the most easily obtained by the majority of people and are thus of great practical value. For proper protection milk or leafy vegetables should be used frequently to supply the fat-soluble A; vegetables and entire grain products for water-soluble B, and raw foods for water-soluble C. Simplicity in eating and drinking and a liberal use of foods direct from the hand

of Nature are important factors in the maintenance of health.

CONDIMENTS AND SPICES

Condiments are substances which are not foods, but which are added to foods to impart flavors. Condiments are defined as articles which add nothing to the nutritive value of food; they simply make it taste better.

Highly seasoned food leads to intemperance in drinking as well as in eating. The irritated, inflamed condition of the alimentary canal, caused by the hot food, creates a craving for something stronger. By the use of condiments, the nerves of taste become so benumbed that they are unable to detect the delicate flavors of the different kinds of food, and to many persons they are wholly unknown.

All condiments are poisons, and when used in any considerable quantity clog the liver and irritate all the digestive organs. Under this list may be placed: Pepper, cloves, cinnamon, ginger, pepper-sauce, vinegar, mustard, etc.

Condiments and spices used in the preparation of food for the table aid digestion in the same way that tea, coffee, and liquor are supposed to help the laboring man to perform his task. "Healthful Living," pp. 92, 93.

Cook meat with spices, and eat it with rich cakes and pies, and you will have a bad quality of blood. The system is too heavily taxed in disposing of this kind of food. Mince pies and pickles, which should never find a place in any human stomach, will give a miserable quality of blood.

Flesh meat and rich food and an impoverished diet will produce the same results. T. Vol. 2, p. 368.

There is no harm in using the milder flavorings and seasonings, such as salt, sage, celery-salt, bay leaves, paprika, etc., which will improve the flavor of some foods.

Pepper, one of the most generally used of all spices, is supposed to be beneficial in cases of indigestion by stimu-

lating the secretion of gastric juice to redoubled activity. What condiments really do in such cases is to inflame the delicate mucous membrane of the stomach and to produce catarrh of the stomach, and if this use is persisted in, a diseased condition of the intestines is likely to result.

Cayenne or red pepper, contains slightly nutritive properties, but these are not sufficient to offset the effect of the inflammation and the deranged digestion which its continual use produces in the stomach, and it should therefore be eliminated from the dietary.

Mustard, the ground seed of the mustard plant is used chiefly in salad dressings, and with cold meats, and is supposed to stimulate a laggard appetite. It is a strong irritant of the stomach and its use cannot be recommended. Mustard is said to have the same effect outside as it has inside of the stomach.

Ginger is used chiefly as a condiment, has a slight food value, mostly of the starchy element. Like pepper and mustard, it has a very injurious effect upon the mucous membrane of the stomach.

Cloves are the buds of a tropical evergreen, picked by hand and dried in the sun. They are wholly innutritious, and are injurious to the mucous membrane which lines the stomach.

Cinnamon and Cassia. These two spices are less injurious to the mucous lining of the stomach than the condiments which have been named, but their excessive use is not recommended.

Allspice or pimento is the fruit of a West Indian tree. It has a pleasing aroma, but it is an irritant and should not be used.

Vinegar is a decomposition product of alcohol; is made by the germ process, the result of two fermentative processes, and because of its irritating properties produces disease; while lemon juice is not a free acid, but an acid

salt, not a decomposition product, but is built up in Nature's laboratory, is full of vitamins and is a cure for scurvy and many cases of malnutrition. Vinegar is entirely devoid of food properties, the large amount of acetic acid which it contains is decidedly injurious to the lining of the stomach, and produces in the liver a condition which resembles what is known as "gin liver." Prov. 10:26.

CONDITIONS NECESSARY FOR PERFECT NUTRITION

A combination of nitrogenous and non-nitrogenous foods is essential for the support of the human system, with water to dissolve them and oxygen to burn them. Although air is not classified as a food it is essential to effect the chemical changes needful for assimilation, "about two thousand cubic feet of air need to pass through the lungs of an adult daily in order to furnish oxygen in sufficient quantity. Nothing can take the place of fresh air with its quota of oxygen—which is a prime requirement in nutrition. If there is a lack in this most important food-stuff, starvation will result as truly as if other food were withheld, for the changes required for nutrition can not take place, and furthermore incomplete decomposition occurs, which may result in more or less poisonous products.

1. *"A Perfect Food* must contain all the nutritive elements of the body: Protein, carbohydrates, fats, mineral matter, water and vitamins. 2. It must contain these in their proper proportions. 3. It must contain in a moderate compass the total amount required daily. 4. The nutritive elements must be capable of easy absorption, and yet leave a certain bulk of unabsorbed matter to act as intestinal ballast. It must be obtainable at a moderate cost."—Hutchinson.

A Mixed Diet is therefore necessary, as no "one food" fulfills all the requirements of a perfect food. A mixed

diet must be taken whereby one food may be used to supplement what is lacking in another.

The foods best fitted to the needs of the individual are the foods best for health. The best food is that which is both healthful and cheapest.

Definition for Dietetics.—Dietetics is an application of the science of nutrition to the feeding of individuals of different ages, under different circumstances, in health and disease.

CORRECT FOOD PROPORTIONS

All persons are alike in that they must have protein for the building and repairing of the body machine and fuel ingredients (carbohydrates and fats) for warmth and work, but individuals differ in the amounts and proportions they require. Even in health it is necessary to avoid certain kinds of food, and people with weak digestion must often observe special diet.

In the first place, we should choose the things which agree with us and avoid those which we can not digest and assimilate without harm.

We should use such kinds and amounts of food as will supply all the nutriment the body needs and avoid burdening it with superfluous material to be disposed of at the cost of health and strength.

The Ideal Diet is that combination of foods which, putting the least burden and taxation on the body, supplies it with exactly sufficient material to meet its needs.

The daily average ration an adult or working man requires is: 5 pints of water, $2\frac{1}{2}$ to 3 ounces of protein, $1\frac{1}{2}$ to 2 ounces of fat and 16 ounces of carbohydrates.

About one-third of the water is taken in our food, the remainder as a beverage. To keep in perfect health and do the best physical and mental work, a mixed diet is very essential. For persons doing light work, a low protein diet is much preferable.

FOOD COMBINATIONS

Two important principles should be observed in combining foods: 1. The combination should be such as to bring to the body the proper food elements in the right proportion. 2. the foods should be so combined that there will be harmony in the digestive process. For instance, food which is digested in the stomach should not be mixed with food that requires long intestinal digestion, (acid fruit and coarse vegetables).

Food should be combined that will digest in about the same length of time. If we mix too many kinds of food together, we are certainly making trouble, because it is impossible for all food substances to be digested at the same time.

It is impossible to give definite rules that every one can follow in the matter of combining foods. What agrees perfectly with one may be even injurious to another.

GOOD COMBINATIONS

Grains, nuts and eggs with all other foods
Fruits, grains and nuts
Milk, grains and nuts
Grains, nuts and vegetables

FAIR COMBINATIONS

Fruits and nuts
Milk and sweet fruits
Milk and vegetables

BAD COMBINATIONS

Large quantities of milk and sugar together
Fruits and coarse vegetables
Milk and meat
Milk and sour fruits
Starches with strong acids
Starches cooked in fats

PLANNING THE MEAL

Simplicity in planning the meal should be the aim of all, but the combinations in each individual case may vary.

In the planning of meals, food must be considered from two general standpoints, that of nutrition and that of agreement together.

When the principles of combining foods are rightly understood, very palatable and nutritious meals may be prepared from the most simple and inexpensive foods.

Since health and efficiency so directly depend upon what we eat, no other study is more worthy of the housewife's attention than the art of planning harmony in her meals.

A small amount of food in right combination will give more energy than a large amount poorly combined. This not only makes the selection of foods a matter of health, but of economics.

In seeking to provide foods that will give proper nourishment to the body we should avoid the extreme in either of two directions: on the one hand, that which tends toward an impoverished diet, on the other hand that which brings into one meal too many heavy, highly concentrated foods.

For instance, it will be seen that fresh vegetables, especially the coarser kinds, contain a large proportion of water, and thus by themselves would fail of supplying the proper nutrition to the body; but when served with the more solid foods, as grains, nuts and nut foods, or legumes, they furnish the needed bulk to the food, and are rich in mineral salts and vitamins.

In planning the meal and making choice of foods that will combine it is a good plan to select some dish as a keynote, and group around it such others as will harmonize with it.

A safe plan to follow is to see that the soup, the relishes, and the dessert, harmonize with each other, as nearly every one will partake of all three of these.

BALANCING MEALS

Most housekeepers give up in despair when a suggestion concerning food values is mentioned to them, many seem to feel that it is a subject too scientific, requiring the chemist to interpret. But it is possible for the progressive housekeeper who seeks to advance at every opportunity and wishes to know if she can do better by understanding the fundamental principles governing the proper selection and combination of foods, to obtain this knowledge.

Activity necessarily makes two demands: 1, material to build up and repair the wear and tear caused by this activity. 2, fuel to burn, making activity possible by the transformation of heat into energy or power to work. A distinct repairing material, namely protein, (classed as substantial foods) found in meat, eggs, legumes (peas, beans and lentils, cheese, milk, and nuts, combinations of the foregoing, such as nut foods, nut loaves, macaroni with milk and eggs; and two distinct groups, namely, carbohydrates (starch and sugar) and fats, furnishing fuel for our activities, are needed. The carbohydrates and fats are both fuels, and are interchangeable, but we draw from both sources.

A poorly balanced meal is one which consists of several foods chosen from the same class, as several substantial foods in the same meal, or one which contains only starchy foods, or one that contains too many sweetened foods.

A properly balanced meal must furnish protein (building material) and carbohydrates and fats (fuel material). A diet containing pure protein, fat, and carbohydrates

would cause starvation in a short time. A balanced diet must contain vitamins and mineral salts—yielding an abundant supply of iron, phosphorus, calcium, magnesium and potassium. These are supplied by fruits, fresh vegetables, milk, eggs, nuts and whole cereals.

Another thing to consider in planning our menus is to supply bulk. While there is little or no real food value in this, its function is important in regulating the digestive processes of the body. Fresh fruits and green vegetables are the chief source for this filling material.

SELECTION OF FOOD

Few recognize that there are essential principles in the matter of eating, that the way in which men eat and drink, bear a definite relation to health. Appetite, custom and convenience are usual guides in the selection of the diet. Proper selection of food is the first essential of eating. It is unnecessary to be a dietetic expert and calculate accurately the grams and calories in every dish we serve, but thoughtfulness in combining natural foods will insure a well balanced dietary.

“Those foods should be chosen that best supply the elements needed for building up the body, . . . in order to know what are the best foods, we must study God’s original plan for man’s diet. . . . Grains, fruits, nuts and vegetables constitute the diet chosen for us by our Creator. These foods . . . are the most healthful and nourishing”—Ministry of Healing, page 296.

These, the natural products of the earth, the foods which “grow standing still” put up in such a wonderful variety of colors and flavors in the laboratory of nature are the best foods.

From whole unprocessed grains, and products made from them; from the extensive list of fresh, canned or

dried fruits; from abundant variety of nuts and vegetables, together with milk and eggs, anyone can choose a well balanced, palatable and blood building diet.

SIMPLE VARIATION OF FOODS

"There should not be a great variety at any one meal."
Ministry of Healing, page 299.

After selecting proper kinds of food, the next important principle to follow is simplicity, even in the use of the best foods. Many people estimate the value of a meal according to the number of courses and variety of complicated dishes it contains.

Bewildered with the mass and mixture of complicated foods forced upon it, the abused, over filled stomach protests in cries of pain, heart burn, gas and sour stomach, but this is so often interpreted by the owner to mean more food or the use of a drug to quit the disturbance. Too many kinds of even the most healthful foods is harmful. Selecting only a few, often but two or three kinds of food at one meal, dispensing with long courses and placing the food all in sight at the beginning of the meal, will go far toward normal and complete digestion.

The meals should be varied. "The same dishes prepared in the same way, should not appear on the table meal after meal, and day after day. The meals are eaten with greater relish and the system is better nourished when the food is varied."—Ministry of Healing, page 300.

ACID AND ALKALI FORMING FOODS.

There is an increasing tendency to use refined, concentrated foods, to eat largely of package goods and canned goods, but this is done greatly at the expense of the health. These devitalized foods combined with a large proportion

of meat and other proteins, are broken down in the system, producing acid bodies.

These use up the neutralizing substances in the blood and tend to render the blood acid in reaction instead of slightly alkaline as it should be, and are consequently responsible for a large variety of symptoms. These foods may be classed under three heads: 1, Acid Forming Foods; 2, Alkali Forming Foods, and 3, Neutral Foods.

By an acid-forming food is meant, not one which is acid in its reaction, but one which produces an acid condition during its metabolism in the body. This occurs independently of the fact that the food is or is not acid in itself. Similarly, an alkali-forming food is not necessarily one which contains free alkali, but one which produces alkaline conditions in the body.

Acid producing Foods are: Meats, poultry and fish, visceral foods, eggs, grains, especially the refined cereals,

Alkali producing foods are: All fruits, all vegetables, (except legumes), milk is strong alkaline forming. The acid, citrous fruits are highly alkali-forming in the body. Neutral foods are: Starches, fats, and nuts.

Now, what is the advantage of alkali over acid-producing diet? In experiments with animals it was found that they maintained good health on an acid-producing diet; yet if a man shows on examination for life insurance that there is excess of acid in his system he is not regarded as a good risk; we have good ground for the conclusion that so long as we keep our blood stream alkaline nothing very serious in the line of common ailments will be the matter with us.

In order that the carefully balanced chemical processes of the body may proceed undisturbed, it is necessary to include some of these basic or alkali-forming foods in the diet daily as fresh vegetable salads, cooked vegetables and fruits. Always save the water in which vegetables are

cooked and use for gravy and soups; it contains valuable salts.

There are other causes than ill-chosen food which will tend to acid conditions: Lack of fresh air will do it, so will lack of healthful exercise. Indulgence in the unwholesome emotions of anger, worry, or fear will turn the blood most decidedly acid in a brief while. Food will be no corrective of these conditions so long as the emotions rule, it is a case of keeping the heart with all diligence.

NATURAL FOOD OF MAN

In order to understand what are the best foods, we must study *God's original plan* for man's diet. He who created man, and who understands his needs, appointed Adam his food. Gen. 1:29. And *God said*, behold I have given you every herb bearing seed, which is upon all the earth, and every tree yielding seed, to you it shall be for meat.

We learn in Gen. 3:17, 18, after the fall, when the ground was cursed for man's sake, the herb of the field was added to his diet.

The menu provided for man in the beginning did not include animal food. Not until after the flood, one thousand six hundred and fifty-six years of human history had passed was man permitted to eat flesh, and then only after everything had been destroyed by the deluge. Gen. 9:3. Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things. But we notice *God gave warning* in the next verse as to the result of man using such food. Gen. 9:5. And surely your blood of your lives will I require; at the hand of every beast will I require it, and at the hand of man; at the hand of every man's brother will I require the life of man.

The beasts that are vicious live upon a flesh diet, they feast upon the bloody, quivering flesh of their victims.

On the other hand the tame beasts feed upon grains and herbs. Think of their calm quiet disposition. Would we not consider their diet responsible for their peaceful temperament?

Before the flood, when men were still living upon the Heaven-appointed bill of fare—of nuts, fruits and grains—the average age of man was nearly one thousand years—after the flood flesh eating began, and with flesh eating a rapid decline in the length of human life. So the average length of man's life is only 42 years.

Noah lived 950 years; his great-grandson lived 433 years, coming down to the 19th century man's *average life* is 42 years.

Baron Cuvier, a famous anatomist, writes: "The natural food of man judging from his structure, appears to consist principally of fruit, roots and vegetables, these foods are sufficient food for the stomach, into which we now stuff valuable lives."

SHALL WE EAT MEAT?

"It is a mistake to suppose that muscular strength depends on the use of animal food. The needs of the system can be better supplied, and more vigorous health can be enjoyed, without its use. The grains with fruits, nuts, and vegetables, contain all the nutritive properties necessary to make good blood. These elements are not so well or fully supplied by a flesh diet.

"Had the use of flesh been essential to health and strength, animal food would have been included in the diet appointed man in the beginning."—Ministry of Healing, page 316.

In their growth, vegetable foods secrete no poisons, but in animals, the very process of life itself consists of the breaking down of tissue and the formation of numerous poisons.

Every time an animal contracts a muscle, waste products are produced in its body. These poisons are in the flesh when the animal is killed, and these substances would have been carried off by the excretory organs had the animal lived long enough. No amount of cooking can remove them. The exact opposite is true when we partake of foods that are of vegetable origin. We avoid burdening the system with this quantity of substances, which must be disposed of at a great sacrifice to the eliminative organs. While it is true that animal products all contain a share of the nutritive constituents necessary for our existence, because the animal has taken substances from the vegetable kingdom.

When we eat flesh, we are but eating vegetables and grains at second hand. The life that was in the vegetable passes into the eater; altho by eating the flesh of the animal we may receive it in part.

How much better to get it direct, by eating the food that *God provided for our use*.

Consider the sources from which the vegetarians get their foods, what is more pleasing than a field of grain, an orchard, or a cocoanut or chestnut grove, cherry trees in the early spring, as the leaves begin to unfold, then later loaded with scarlet fruit?

Such foods as beans, peas, lentils, nuts, eggs and cheese, already contain an excess of proteins and, if in addition, proteins in the form of flesh meats are added, the system is burdened with nitrogenous excess.

We find that 62 per cent of the best beefsteak is water, flesh foods contain but 25 per cent of nourishment and 75 per cent of waste matter. The grains contain 75 per cent nourishment and 25 per cent waste, therefore ten pounds of grains, when fed to an animal, makes but one pound of flesh, making flesh a very costly food. We lose 75 per

cent to obtain 25 per cent nourishment. Animal foods which in reality are but nutriment of vegetables and grains obtained second hand, are of the least value, because flesh meats are loaded with the waste products remaining in the tissues of the animal at the time of slaughter. It really is not necessary to animalize foods, in order to make them digestible.

DANGERS OF DISEASE IN MEAT

Because those who partake of animal food do not immediately feel its effects, is no evidence that it does not injure them. It may be doing its work surely upon the system, and yet the persons for the time being realize nothing of it.—How to Live, Chapter 1, page 59.

The liability to take disease is increased tenfold by meat eating.—Testimonies, Vol. 2, page 64.

The practice of eating largely of meat is causing diseases of all kinds,—cancers, tumors, scrofula, tuberculosis, and other like affections.—Unpublished Testimonies, Jan. 11, 1897.

In pork is found a small parasite, called the trichina, which when eaten, burrows in the muscles of the human body, producing an extremely painful and often fatal infection. A large per cent of hogs harbor this parasite.

Ulcer of the stomach is one of our most common diseases; Leading Surgeons have shown that it is ten times as frequent as was formerly supposed. It is clearly of dietetic origin, and is usually associated with too high protein diet, especially meat.

Starches, sugar and fats are not digested in the stomach, and require no acid. Proteins on the other hand are digested in the stomach, and require for their digestion a large percentage of hydrochloric acid.

The excessive production of acid in the stomach, stimulated by too much protein is probably the chief cause of the formation of ulcers.

Dr. Fenton B. Truck, of Chicago, said, before the American Medical Association: "Ulcer of the stomach is not found in those countries where the inhabitants eat rice. It is evidently a meat disease."

"The zone of ulcer is the meat eater's zone. We find that cancer has increased in proportion to the consumption of four articles, meat, tea, coffee, and alcohol."

Dr. W. J. Mayo, is quoted as saying, "Cancer of the stomach forms nearly one-third of all cancer of the human body; that the amount of meat consumed undoubtedly has something to do with the prevalence of cancer."

Dr. W. R. Williams, one of the world's greatest cancer specialists, says: "Cancer in England has increased just in proportion as flesh eating has increased."

Then why not give the non-flesh diet a fair trial. Certainly such a trial would not injure one's health nor entail physical discomforts, nor loss of energy; for today over half of the people of the earth subsist upon a non-flesh diet.

It is a fact that numerous cases of tuberculosis have been reported in which the infection could be directly traced to the use of the flesh of tuberculous animals; sheep, as well as cattle, are subject to this disease, and also swine and poultry.

WAS FLESH FIRST USED BEFORE OR AFTER THE FLOOD?

"The inhabitants of the Antediluvian World were intemperate in eating and drinking. They would have flesh meats, although *God had at that time given man no permission to eat animal food*. They ate and drank till the indulgence of their depraved appetite knew no bounds, and they became so *corrupt that God could bear with them no longer*. Their cup of iniquity was full, and He cleansed the

earth of its moral pollution by a flood.”—Christian Temperance and Bible Hygiene, page 43:1.

“The health should be as sacredly guarded as the character.”—Christian Temperance and Bible Hygiene, page 82:3.

“Eating and drinking has much to do with religion. The spiritual experience is greatly affected by the way in which the stomach is treated. Eating and drinking in accordance with the *Laws of Health* promote virtuous actions.”—Mrs. E. G. White, in *Review and Herald*, May 27, 1902

Whether therefore ye eat or drink or what so ever ye do, do all to the Glory of God.—1 Cor. 10:31.

FRUITS.

Fruits are the seed-bearing portions of plants. Some products of this class, such as melons, are sometimes called fruits and sometimes vegetables; and a few vegetable products which are not fruits in the strict sense, are included in this class of food products because they have a similar place in the diet.

Composition—Fruits consist chiefly of water, and for this reason are scarcely ever looked upon as nutriments. The large amount of water that fruits contain makes them an excellent article of food, especially in summer.

Fresh fruits contain from 75 to 95 per cent water. Those containing a high percentage of water are known as flavor fruits, and those containing a low percentage of water as food fruits. When the water is removed by evaporation, as in drying, the percentage of moisture falls to 30 per cent or less, and the proportion of nutrients is correspondingly raised so that dried fruits would fall into the class of food fruits.

Fruits contain little or no fat. The olive being an exception.

Protein is present in such small proportion that it is practically negligible.

Carbohydrates are the chief nutrient present. In ripe fruits these are almost wholly in the form of sugars and other soluble carbohydrates, commonly called pectin bodies. In unripe fruits starch is often found, especially the banana.

Fruits contain characteristic organic acids, such as malic in apples, citric in lemons, oranges, etc. These acids exist in the form of salts, usually potassium, iron and lime.

Flavor—The flavor is due partly to the sugars and acids, and partly to characteristic ethereal bodies present in small quantities.

Digestibility—Digestibility of fruits varies with the kind of fruit eaten and its mode of preparation. Stewed fruits are, in general, more easily digested than raw fruits. Oranges, lemons, grapes, grapefruit and peaches, are very generally digested with ease. Oranges are excellent from a medical standpoint. The juice is easily digested, and its organic salts and acids form the best natural laxative and are a preventive of children's disorders resulting from sterile or deficient food.

The apple exerts a most excellent influence upon the liver and the kidneys, and is valuable in cases of acidity of the stomach. The juice of ripe pineapple contains an enzyme, similar to pepsin, called bromelin, and so powerful in its action on protein that it will digest as much as one thousand times its weight within a few hours. It is especially valuable in diphtheria and diabetes.

Dates, figs and prunes are valuable for inactivity of the liver and most excellent laxatives.

Bananas contain a large amount of starch, as much as the potato, therefore it should not be eaten in an unripe state. For invalids and children and others of delicate digestion, it should be cooked or baked.

Grape juice and other freshly expressed juices are refreshing and wholesome beverages.

Nutritive Value—Fresh fruits are chiefly valuable for their refreshing, appetizing qualities, their ash constituents and the laxative effect of their cellulose content. The organic acids form carbonates in the body, and by their alkalinity assist in the regulation of body processes.

Fresh and canned fruits are also valuable for their anti-scorbutic property.

Bulk—Fruits are also valuable for bulk, which is an essential factor in diet. Most of them contain a considerable proportion of indigestible matter. Intelligently used, fruits are a valuable part of a well-balanced diet, and their use should be encouraged.

Disinfectants—The acids of all fruits are disinfectants to a certain extent, some more than others. This makes them very valuable and beneficial in cases of disease, because they are disinfectants, clearing out the germs from the stomach and alimentary canal, and breaking up the waste substances so they can be eliminated by the kidneys and excretory organs.

Vitalizers—Much stress has recently been placed by physicians and dietitians upon the importance of vitamins in the diet. This food principle is essential to proper assimilation of food and the maintenance of perfect health.

Milk, vegetables, and fruits contain vitamins in large quantities. Their value, however, is destroyed largely in milk during the pasteurization process and in most vegetables by cooking. The importance of raw fruits is therefore emphasized as a vital part of the regular diet.

Oranges and lemons contain large quantities of vitamins in addition to many other important nutritive and healthful properties. The vitamins in the lemon juice it was found, supplied the necessary ingredients for proper assimilation and good health.

The citrus fruits are incased in a thick oily skin. These coverings seal the edible portion of the fruit, so that the water contained is absolutely free from germs or foreign matter.

Fever patients are in constant need of large quantities of water to allay the heat of their bodies and to help carry off the toxins through the pores and kidneys.

The juice of the orange or lemon, because of the pure quality of the water and its sugar and acid properties makes a delectable and wholesome beverage for the patient.

Lemon juice as a cure for rheumatism, is one of the most welcome discoveries in recent years. One or two ounces of lemon juice, taken four times a day, has been known to relieve rheumatism and gradually effect a complete cure.

Precautions in the Use of Fruits—Over-ripe or unripe fruit should not be eaten raw; besides inferior flavor there is danger of digestive disturbance.

Before serving, all fruit should be thoroughly washed to avoid germs. There is danger of acquiring harmful intestinal parasites from raw fruits; in all doubtful cases, the food should be cooked.

BEVERAGES

A beverage is any drink. Water, the chief of them all, is nature's beverage. Beverages serve primarily to relieve thirst. They are also taken for their temperature—cold or hot; for their flavor, which helps to arouse or appease the appetite; or for their stimulating properties. Usually they have little or no energy value, but when made with milk, eggs, cocoa or other highly nutritive materials, they become a valuable means of administering food in a liquid form.

All beverages need be made with much care and served

daintily. Hot drinks should be served at a temperature of 120 to 140 degrees F.

Cold drinks should be thoroughly cooled, but iced liquids lower the temperature of the stomach unless sipped very slowly, and thus tend to retard digestion. They are therefore better served between meals than with them.

Acid Beverages—Fruit beverages are cooling, refreshing, and slightly stimulating, and are valuable for the organic acids, mineral salts, and sugar they contain.

Of all beverages, lemonade and orangeade are perhaps the most useful in the sick room. These are agreeable, cooling and refreshing in fevers, and have a mild diuretic and diaphoretic action. The organic acids are useful in constipation, as they stimulate peristaltic action. These acids occur in the form of acid salts, usually of potassium, and in the body are changed to carbonates, which preserve the alkalinity of the blood. Ripe pineapple juice is wholesome and contains a ferment which possesses protein digesting properties.

Starchy Beverages—Starchy drinks consist of cereals or cereal products, cooked thoroughly in a large amount of water and strained before serving. Arrowroot, corn-starch, tapioca, rice and rice flour are nearly pure starch, and are given to reduce a laxative condition of the bowels. They are soothing to the alimentary canal.

Oats, barley and wheat, when the whole grain is used, contain besides starch some protein and fat, and also mineral matter, especially phosphorus, iron and calcium. Such drinks are of value when only a small quantity of nutriment can be taken.

Principles of Cooking—As the chief ingredient is starch, long cooking is necessary, in water at a high temperature (212 degrees F.), which softens the cellulose, and breaks open the starch grains, so that it can be readily digested.

Albuminous Beverages—Albuminized beverages are

combinations of egg with water, milk, fruit juices and other fluids. When a large amount of nutriment is required, the albuminized drinks are valuable.

The egg is a fluid food until its albumin is coagulated by heat. Often the white of egg, dissolved in water or milk, and flavored, is given when the yolk can not be digested. Egg-nog is very extensively prescribed in certain non-febrile diseases. The white of egg is best for a fever patient, as the yolk is rich in fat and may produce nausea and vomiting in a feeble stomach, especially in fever.

TEA AND COFFEE

Tea and coffee are not food, but stimulants. They obtain their nutriment from the cream and sugar that are added. Not being a food, they contain nothing that can be assimilated, and therefore can not supply the wants of the body.

A stimulant is anything that excites the nerves and makes a person feel stronger, but which adds nothing to his supply of energy. It is therefore a deceiver or counterfeit. It pretends to brace up when in fact it tears down.

Theine is the active principle in tea, and caffeine in coffee. Both will produce intoxication, but millions of people use them daily and scarcely give a thought to the poisons they contain.

COCOA AND CHOCOLATE.

The cocoa tree is a native of Mexico, South America, and the West Indies. Cocoa and chocolate are both prepared from seeds of the cocoa bean. The pod is from seven to ten inches long and from three to four and a half inches in diameter. Each pod contains from twenty to forty seeds. The tree is from ten to twenty feet high. Cocoa beans are dried previous to importation, and, like

coffee, they need roasting to develop flavor. After roasting, the outer covering is removed. This covering makes what is known as cocoa shells, and has but little nutritive value. The beans are then broken and sold as cocoa nibs.

Chocolate and cocoa differ from tea and coffee, inasmuch as they contain nutriment as well as stimulant. The active principle is theobromine, which is almost identical with theine and caffeine in its composition and effect.

Cocoa is made by grinding the nib between hot rollers, which melts the fat (of which the cocoa bean contains about half of its weight) they contain and reduces them to a liquid. Most of this fat is removed by pressure, and the remainder is converted into cocoa-essence or powder.

Chocolate is made from cocoa nibs, but contains all or a much larger proportion of fat than cocoa. The fat obtained from the cocoa bean is known as cocoa-butter.

Principles of Cooking—Chocolate and cocoa both contain considerable starch and should be boiled to be digestible. The cooked starch also serves to thicken the beverage somewhat, and to make it smooth and more homogenous. On account of the volatile oil to which the flavor is due, the cooking should be continued only long enough to alter the starch, otherwise the oil is lost.

CHEMICAL LEAVENINGS

The use of chemicals is not to be recommended, because they always consist of a combination of baking soda (sodium bicarbonate) and an acid. The acid may be cream of tartar, tartaric acid, an acid phosphate, lactic acid of sour milk, hydrochloric acid, fruit acid, or alum compound.

Baking powders always contain soda and an acid, and are of three classes: Cream of tartar, acid phosphate powder, and alum powder; alum powder being the most injurious. Soda and cream of tartar produce Rochelle salts;

soda and acid phosphate produce sodium neutral phosphate; and soda and hydrochloric acid produce sodium chloride (common salt). This combination of soda and hydrochloric acid is doubtless the least objectionable of any of the salts produced, but great care must be exercised in the use of it, as it is a poison when not combined. The hydrochloric acid must be chemically pure (marked C. P.), exact measurements being used, so that the soda and acid may be perfectly neutralized. One level teaspoonful of soda is neutralized by eighty minims of hydrochloric acid (eighty minims is a level teaspoonful).

Soda, if used at all, should be used with an acid in exact proportions so that there may be no excess of alkali. The most accurate way to use it is with hydrochloric acid in the proportion of one exactly level teaspoon of soda to eighty minims of hydrochloric acid. In this way, the following chemical reaction takes place: H. C. L. (Hydrochloric acid) plus NaHC_3 (soda) equals NaCL (salt) plus H_2O (water) plus CO_2 (carbonic acid gas). The end products are simply common salt, water and carbonic gas or carbon dioxide. This measurement must be exact. One teaspoon of soda and eighty minims of hydrochloric acid are equivalent to four level teaspoons of baking powder. The equivalent in baking powder is given in each recipe calling for soda and hydrochloric acid, as there may be occasions when the housewife will find it necessary to entrust the preparation of the meal to inexperienced persons; but whenever possible, it is recommended that the hydrochloric acid and soda be used in place of baking powder. It is advisable, when using hydrochloric acid to have a minim glass, which can be purchased for a small sum at any drug store. Proportions of soda and hydrochloric acid:

- 1 level teaspoon of soda for 80 minims hydrochloric acid
- $\frac{1}{2}$ level teaspoon of soda for 40 minims hydrochloric acid
- $\frac{1}{4}$ level teaspoon of soda for 20 minims hydrochloric acid
- $1\frac{1}{2}$ level teaspoons of soda for 120 minims hydrochloric acid
- 2 level teaspoons of soda for 160 minims hydrochloric acid

CHAPTER II

Nutrition

Under this term is usually understood the digestion and absorption of nourishment, its assimilation and utilization, its storage in excess, and the elimination of the products of wear and tear, combustion and of nutriment or waste which cannot be utilized.

Food, before it can be utilized by the body, must undergo many mechanical and chemical changes to render it capable of digestion, absorption, and assimilation.

DIGESTION

Digestion—Is the conversion of insoluble and indiffusible substances into soluble and diffusible substances capable of being absorbed.

Absorption—Is the taking up of the digested food by the blood vessels and lymphatics and conveying it to the blood.

Assimilation—Is the taking up by the different tissues from the blood such material as they need for growth and repair.

Digestion is carried on principally by ferments, and these act by contact. Food is taken into the mouth, masticated by the teeth, moistened by the saliva, and coated by mucin in the saliva which makes it easy to swallow.

Saliva—The saliva is an alkaline fluid secreted by three pairs of glands,—the parotid, submaxillary and sublingual. Ptyalin, which acts in an alkaline medium, is the ferment found in the saliva. It has the power of changing the starch to maltose and dextrose, but has no effect on proteins or fats.

The flow of saliva is continuous, but greatest during eating, about three pints being secreted every twenty-four hours. Thorough mastication is very important, that the food may be finely divided before passing on into the alimentary canal. If not well masticated it is retained in the stomach too long a time, which gives rise to acid fermentation. The stomach normally contains few if any bacteria, as they do not thrive where there is great activity or in an acid medium.

Food is forced by peristaltic action through the oesophagus into the cardiac portion of the stomach when it comes in contact with gastric juice.

The Gastric Juice—Is a fluid which contains hydrochloric acid and three ferments (enzymes) pepsin, rennin and lipase. The flow of gastric juice is intermittent, but about the same quantity is secreted daily as of saliva. Pepsin acts upon protein foods, changing some to albumoses and peptones, pepsin is the principal ferment which acts upon gelatin. Rennin is a milk curdling ferment. Lipase is a fat splitting ferment.

Fats—Are set free, and to some extent melted in the stomach. Water passes on with the partially digested foods. If the food is liquid, the water leaves the stomach very quickly.

The stomach plays a very important part in digestion.

Mechanical—It acts as a reservoir and it reduces food to a liquid or semi-solid consistency.

Chemical—The actual digestion by chemical means is comparatively slight, but it is possible that the products of stomach digestion (chemical products) are important in stimulating the mechanical and chemical processes in the rest of the digestive tract. The stomach has two muscular motions. The first is a turning movement, which takes place in the larger or cardiac portion, mixing the food with the gastric juice; thus bringing the whole to a semi-fluid

consistency. The second is a wave like movement which takes place in the pyloric end, by means of which the food is allowed to pass by intervals into the duodenum, which is the entrance to the small intestines.

The juice poured out in the pyloric portion contains no hydrochloric acid, but is neutral or slightly alkaline, pepsin is present. The gastric juice varies in quantity not only in different individuals but in the same individual according to the diet. Pawlow has made many very interesting experiments along this line and has discovered that a diet composed chiefly of meat produces a large flow of gastric juice poor in ferments, while milk produces a moderate flow of gastric juice rich in ferments.

To keep in good health or normal condition, a plain, wholesome mixed diet is the most satisfactory.

Appetite—Has a marked effect on gastric digestion and it is often necessary to stimulate the appetite. Attractive surroundings such as plants, flowers, music, singing birds, etc., good cooking play a far more important part than surroundings. It is the duty of the cook to stimulate the appetite by appealing to the sense of hearing, smell, sight and taste.

Digestion—Principally takes place in the small intestines. The stomach acts as a reservoir for food and plays a very important part. Food in the small intestine comes in contact with two fluids,—the pancreatic juice and that of the bile, both of which are alkaline fluids. The flow of the pancreatic juice is suspended except during digestion, while the flow of the bile is constant but greatest during digestion. The pancreatic juice contains four ferments,—amyllopsin, trypsin, steapsin and invertin. Amylopsin acts upon starches and completes their digestion. Trypsin completes the digestion of proteins. Its action is similar to the action of pepsin in the gastric juice, but it is able to act in an alkaline medium.

Steapsin splits the fats into glycerine and fatty acids. The fatty acids combine with an alkaline solution and form soap. The bile salts also play an important part in the digestion of fats, but effect neither proteins nor carbohydrates. They too combine with fatty acids to form soap and soap forms an emulsion. Fats thus emulsified are ready for absorption. Invertin acts upon cane sugar, changing it into levulose and dextrose.

The liver acts as a storehouse for the body to be called upon as needed. Some of the carbohydrates which have been converted into sugar, on reaching the liver are changed into glycogen which is reconverted into sugar before entering the general circulation.

The digested food is ready for absorption. The liquids are the first to leave the stomach, then carbohydrates, proteins and fats in the order given.

White of egg and skim milk as they require so little stomach digestion are the most quickly absorbed of protein foods.

Food is moved along from the small to the large intestine by the peristaltic muscular contraction. Absorption of food occurs almost entirely in the small intestine and for the most part in the upper part. By the time the intestinal contents have reached the caecum practically all the nutritive portion has disappeared.

The digestive tract is known as the alimentary canal, and is divided into several different portions—the mouth, esophagus, stomach, small intestines, and large intestines, which end in the rectum.

The saliva can not act upon fat, and when the starchy foods are saturated with fat, the saliva can not do the work which nature intended it to do, and the food must pass into the stomach undigested. The gastric juice of the stomach has no action whatever upon the starches, and so

they pass on again. (This shows the importance of thorough mastication and mixing with saliva.)

It should be remembered, however, that the starch digestion which is started in the mouth is continued for from half an hour to an hour after the food reaches the stomach. If nature had not made a wise provision in the pancreatic juice of the small intestine, *the careless eater* would be robbed of his chief source of heat and energy; for the pancreatic juice is able to dissolve the fat and thus digest the starch; but the digestive process should be commenced in the mouth.

The Bible tells us that man is fearfully and wonderfully made. Ps. 139:14.

The saliva contains two enzymes, ptyalin, and maltase. By the action of ptyalin starch is changed to dextrins and these to maltose; maltose is converted into dextrose, the end product of salivary digestion. Raw starch is so very slowly affected by enzymes that much of the food value of uncooked cereals is lost, so that the practice of baking ground grain into bread developed very early. It is claimed that the more perfect utilization of all food eaten necessitates the taking of a smaller amount.

There is no doubt that thorough mastication renders the digestion of starch easier and more complete, but it will not greatly alter the total food requirement.

The starchy food mixed with saliva passes from the mouth to the stomach and lodges in the fundus, the portions last eaten always going to the center of the mass. Thus while the gastric juice is at work upon the outer layer, attacking the protein of the diet, the inner portions remain alkaline for a considerable time, so that salivary digestion may continue undisturbed. From time to time the soluble products of salivary and gastric digestion pass into the intestines. Here the conversion of starch and intermediate products into simple sugars is completed. The pancreatic

juice contains an enzyme called amyllopsin, which acts like ptyalin,—changing starch to dextrins, and finally to maltose. The intestinal juice contains an enzyme capable of changing maltose to dextrose, the final product of starch digestion.

When more is eaten than the body can make immediate use of, the excess is stored in the tissues in the form of fat. And it is interesting to know that fat so formed is more solid and firm than that built from fats direct. The digested starches, mostly in the form of sugar, are absorbed from the small intestines, carried to the liver, and given off to the blood as needed, or stored away as liver starch, called glycogen. From time to time, this glycogen is reconverted to sugar and distributed to the different parts of the body as needed.

DIGESTION OF SUGARS

Although sugars are perfectly soluble and easily absorbed, they must all be converted into monosaccharides or simple sugars (chiefly dextrose), before they can be utilized by the body. The maltases of the saliva and intestinal juice, convert each molecule of maltose into two of dextrose. In the starch, a slight hydrolysis of the disaccharides may occur through the influence of the hydrochloric acid. In the intestines, provision is made for their complete transformation. Both the pancreatic and intestinal juices contain enzymes of this type.

In young animals or older individuals on a milk diet, the pancreatic juice contains lactase, which converts lactose (milk sugar) into dextrose and galactose. The intestinal juice contains three such enzymes, sucrase, acting on sucrose (cane sugar); lactase, acting on lactose, and maltase, acting on maltose.

MINERAL MATTER

Mineral matter and water require no changes to prepare them for absorption.

DIGESTION OF FAT

Fat is not acted upon by the secretions of the mouth nor to any great extent by those of the stomach.

Fat is digested, first by emulsification in the stomach; this emulsification is effected by the motions of the stomach. The gastric juice contains an enzyme, called gastric lipase, which has the power of acting on emulsified fats, such as in cream or yolk of eggs.

It plays a more important part in the digestion of infants than of adults.

The presence of a large amount of fat in our food in the stomach retards the secretion of gastric juice, and this excess of fat in the stomach is sufficient to close the pylorus for a longer or shorter time, due to the failure of the secretion of free hydrochloric acid.

Doubtless this is the reason that fat in the diet often seems to retard and disturb digestion.

Digestion of fat takes place mainly in the small intestines. The pancreatic juice contains an enzyme, called steapsin, which has the power of emulsifying fats and splitting them into fatty acids and glycerine, and the alkaline digestive juices reform the acids into soap. This material and the glycerine is absorbed by the intestinal wall and reorganized into emulsified fats and sent out into the lymph stream.

The bile contains no such enzymes, but it is an important factor in the digestion of fat. It has the power of increasing greatly the activity of the pancreatic lipase, and of holding in solution the fatty acids formed by its action, so that they are more perfectly absorbed.

When bile is lacking, much of the fat fails of absorption and is excreted through the intestines.

Emulsification is an important aid in the splitting of fat into glycerine and fatty acids, the forms in which fat is

chiefly absorbed. The most easily digested fat is milk fat in cream, because it is already in an emulsified form.

Infants are not able readily to digest other fats. All fats, if first emulsified, are much easier digested by adults.

DIGESTIBILITY OF VARIOUS FOODS

	Hrs. Min.		Hrs. Min.
Rice	1.00	Mutton, roasted.....	3.15
Sago	1.45	Mutton, broiled	3.00
Tapioca	2.00	Veal, broiled	4.00
Barley	2.00	Veal, fried	4.30
Milk, boiled	2.00	Fowls, boiled	4.00
Milk, raw	2.15	Duck, roasted	4.30
Venison, broiled	1.35	Butter, melted.....	3.30
Turkey, roasted	2.30	Cheese	3.30
Turkey, domestic, boiled...	2.25	Soup, marrowbones	4.15
Goose, roasted	2.30	Soup, beans	3.00
Lamb, broiled	2.30	Soup, mutton	3.30
Eggs, hard boiled.....	3.30	Corn and Beans, green.....	3.45
Eggs, soft boiled.....	3.00	Chicken soup, boiled.....	3.00
Eggs, fried	3.30	Beans, pod, boiled.....	2.30
Eggs, raw	2.00	Bread, wheaten	3.30
Eggs, whipped	1.30	Bread, corn	3.15
Trout, boiled	1.30	Apples, sour mellow, raw..	2.00
Salmon, salted, boiled.....	4.00	Apples, sweet mellow, raw..	1.30
Oysters, raw	2.55	Parsnips, boiled	2.30
Oysters, stewed.....	3.30	Beets, boiled.....	3.45
Beef, lean, rare roasted...	3.00	Turnips, flat boiled.....	3.30
Beefsteak, broiled.....	3.00	Potatoes, Irish, boiled.....	3.30
Beef, lean, fried.....	4.00	Potatoes, Irish, baked.....	2.30
Beef, salted, boiled.....	4.15	Cabbage, raw.....	2.30
Pork, roasted	5.15	Cabbage, boiled.....	4.30
Pork, salted, fried.....	4.15		

DIGESTION OF PROTEIN

Proteins are the most complex of all the nutrients, and while we can ascertain the exact chemical composition and chemical arrangement of carbohydrates and fats and write for them definite chemical formula, we can write chemical formula for very few proteins, and those only the very simplest ones. We know that protein molecules are com-

posed of carbon, hydrogen, oxygen, but the exact arrangement or the amount of each element in a molecule of protein, that has not yet been very completely determined.

Proteins are essential in the diet as tissue builders, and it is estimated that an adult person needs from 60 to 75 grams, about $2\frac{1}{2}$ oz., of protein per day in order to keep up body repair, while children need considerable protein in the diet in order to keep up their growing bodies, in fact they could not be growing bodies without the protein. Therefore, milk and eggs, with their fine balance of nutrients must form an important part of the diet of the young child.

There is no digestive action on proteins in the mouth, except the physical one of grinding the material into small bits so that the digestive enzymes may be able to act readily upon them.

In the stomach the enzyme pepsin splits protein into proteoses and peptones; in the intestines the enzyme trypsin of the pancreatic juice splits proteins into proteoses, peptones, polypeptids and amino acids and the intestinal enzyme, erepsin, splits peptones into amino acids and ammonia. From the walls of the intestines these simple nitrogenous substances are absorbed into the circulation and eventually carried to the cells, where, by metabolism processes, they are formed into cell protein. The tissues secrete autolytic enzymes, which have the power of splitting proteins into more simple substances, and have the power to change cell protein into fuel and waste products.

DIGESTION OF STARCH.

Some have the idea that starch is not a good food, and that is true to the extent that raw starch or improperly cooked starch is very difficult to digest. Before starch can be used by the body, it must be digested or turned into a form of sugar. This change is accomplished to a great

extent by the saliva; hence the special importance of thoroughly masticating the food which contains starch.

The order of nature requires the digestion of starch first. By this means the mass of food is broken into minute bodies, and the protein remains in the shape of delicate threads, a fine network, which is readily acted upon by the digestive fluids.

Raw starch is insoluble in water, and is very slowly digested. Raw starch is not digestible in the stomach to any great extent. The starch and proteins are so intimately associated in the structure of cereals and other vegetables that without the digestion of starch the proteins are inaccessible to the gastric juice.

Raw cereals are fit for use for human beings only when in the half-ripe or milky state, before the soluble carbohydrates, which exist largely in the form of dextrin and sugar, have been converted into insoluble starch. Raw starch may be converted into maltose by the prolonged action of the pancreatic juice, but this action is so slow that it amounts to little in practical nutrition. Raw starch is found in abundance in green fruits and nuts. In the process of ripening, the starch is converted into oil in the nuts and into sugar in the fruits.

It has been found by various experiments that there are five steps in the digestion of starch. Three of these may be accomplished by cooking; the last two are the process of digestion. All starchy food must be thoroughly cooked. Baking is the preferable method for vegetables like the potato, because the starch may be subjected to a much higher temperature than by boiling or steaming.

In thoroughly toasted bread the starch has reached the third step in the digestive process, known as dextrin, a substance intermediate between starch and sugar. Such cereals as wheat-meal and cornmeal require prolonged cooking, in order to soften the cellulose and cook the starch.

The frying of starchy foods is not to be recommended, as frying coats the starch cells with fat, which makes it impossible for the saliva to act upon them. The mouth is the great starch digesting organ of the body, and the saliva (secreted by the salivary glands of the mouth) contains an enzyme which completes the digestive process begun in the cooking.

DIGESTIVE PROCESSES

Digestive processes are mechanical and chemical. They are carried on from the time the food enters the mouth until it is absorbed into the blood. The changes taking place in the nutrients from the time they are absorbed into the circulation until they are eliminated as body waste are designated by the term metabolism.

The mechanical processes of digestion and metabolism comprise:—Food mastication and swallowing; its dilution with water; the emulsification of fats and the mixture into semi-liquid chyme by the motions of the stomach muscles; its slow movement bringing it in contact with digestive fluids by the segmentation of the intestines; the carriage of it through the blood stream to the cells as food and away from the cells as waste by the heart action and the force of gravity.

The chemical processes of digestion and metabolism are performed by digestive fluids called enzymes. These enzymes are secreted by glands and cells and their secretion is caused by the presence of the materials to be digested, and in some instances, by the sight or odor of the food. They are fluids of unknown chemical composition, some acting in alkaline and some in acid, and some in neutral mediums. They are secreted in extremely small quantities, but act in such a manner as to cause great quantities of chemical changes, without themselves being permanently changed.

WORK OF THE DIGESTIVE FLUIDS

We find that of the five separate digestive juices, three digest one each of three classes of digestible food, while one of the remaining two digests all of the elements except cane sugar, and the other the whole food.

Considering the nutritive elements, we find starch albumen, and fat each digested by the three digestive fluids; starch by the saliva, the pancreatic juice, and the intestinal juices; and the fats by the bile, pancreatic and intestinal juices. The bile being alkaline, it neutralizes the gastric juice, which would otherwise interfere with the intestinal digestion. The alkaline character of the bile also enables it to emulsify the fatty elements of the food.

Cane sugar is digested by but one digestive fluid, the intestinal, the last and least of all fluids; but it is very essential.

A list of enzymes with an outline of where they are secreted and what work they perform:

Secreted in the Mouth Salivary Glands	Ptyalin	Acts on starch, changing it to maltose.
	Rennin	Acts on protein, coagulating milk.
Secreted in the Stomach	Pepsin	Acts on proteins, breaking them up or changing them to simpler forms.
	Lipase	Acts on fats, emulsifying and partly breaking them down.
	Amylopsin	Acts on carbohydrates, changing starch to maltose.
Secreted in the Pancreas and emp- tied into the Large Intestines	Trypsin	Acts on proteins sent from the stomach, changing them to still simpler forms.
	Lipase	Acts on fats, changing them to glycerine and fatty acid ready for absorption into the intestinal wall.
	Sucrase (Invertase)	Acts on carbohydrates, changing cane sugar to the simple sugars, glucose and fructose.

Secreted in the Intestines	Maltose	Acts on carbohydrates, changing maltose to glucose.
	Lactose	Acts on carbohydrates, changing lactose (milk sugar) to glucose and galactose.
	Erepsin	Acts on protein, changing the previously simplified form to the simplest form ready for absorption.
Secreted in the Liver	Liver diastase	Acts on carbohydrates, changing glucose to glycogen.
Secreted in the Muscles and Tissues	Glycolitic enzymes	Causing glucose to burn or oxidize as body fuel.
	Autolytic enzymes	Changing proteins into cell substances and waste.

METABOLISM

Metabolism—Is the sum of the chemical changes taking place in the cells of the body in connection with all biological processes, including growth, repair and waste, generation and maintenance of heat, all manifestations of functional activity, storage of surplus nutriment, etc. It comprises two phases, anabolism and katabolism.

Anabolism—Embraces the changes involved in the up-building of the cells, and corresponds in a general way to nutrition.

Katabolism—Comprises the changes involved in the continuous molecular waste of the cells; in the constant oxidation going on in the tissues resulting in the maintenance of animal heat, in the exercise of muscular, nervous and excretory activity. The chief of these products are: 1, urea, the chief form of excretion of nitrogen, and 2, carbon dioxide and water, which represent the products of energy-yielding oxidation.

Elimination—Is the escape or expulsion of the products of katabolism from the tissues into the blood, and corresponds to disassimilation or denutrition.

Excretion—Is the final expulsion of the end products of katabolism from the excretory organs and includes the expulsion of unabsorbed aliment by the bowel. These waste products are eliminated from the system in several ways. Water escapes through the lungs, skin and kidneys. The carbon dioxide produced by oxidation escapes by the lungs, and nitrogenous products of protein metabolism by the urine.

CHAPTER III

Food Values

THE PROPERTIES OF FOODS

The human body is like a machine and must be supplied with proper fuel to do its work for the one using it. We find foods divided into three general divisions—protein, that is muscle-making food; fats, heat givers, and carbohydrates, fat-making. Proteins are nitrogenous, while the others are non-nitrogenous, principally carbon.

These properties of foods are called chemical qualities, and we have still to consider physical characteristics, that is, the amount of energy produced. A special unit has been determined upon to measure the energy-giving properties of food, and that unit is called a calorie, or the amount of heat required to raise one pound of water four degrees Fahrenheit.

Now, the housekeeper will readily see that she must consider the occupation of her family carefully in preparing her menus and give the proportions required; for nature makes no changes and if a body needing heat-giving food, is given an over-supply of muscle-making food, the parts calling for heat-givers will actually starve, no matter how plentifully the table is spread with tissue-builders. Bodies are built up from the food we eat. Different people differ in habit and life, but our American authority, Atwater, has an average amount per day of a man at light labor as follows:

125 grams protein, 125 fat, and 400 of carbohydrates.
One gram of protein yields 4 calories.

One gram of carbohydrates yields 4 calories.

One gram of fat yields 9 calories.

—Bulletin No. 142, U. S. Department of Agriculture.

ENERGY VALUE OF FOOD

The human body can be compared with a steam engine—the burning of the fuel foods in the body produce the ability to work. Food furnishes fuel to supply heat and energy for the body as wood and coal do for the steam engine. The food not only does this work but it must also build and repair the human structure, while the locomotive is not capable of making its own repairs.

Latent heat is just as surely found in food as in wood or coal. They are both waiting to be oxidized, that they may be converted into heat and energy; as different kinds of wood and coal are capable of giving off different degrees of heat and also giving off that heat in longer or shorter periods of time, so the quantity of heat that food is capable of giving off is termed the fuel value of that food.

Since heat is energy, the fuel value of foods is their nutritive value. Energy is defined as the ability to do work. If the quantity of heat that is produced by burning a food is measured, the measurement indicates the quantity of energy that food is capable of giving off to the body, so different foods work comparatively the same way.

Heat can not be measured by weight or length but by the change in temperature which it produces in a given weight of a certain material.

The heat unit is not a pound or yard, but a calorie, or a definite quantity of heat, which, when applied to materials will produce change of temperature in those materials.

The amount of heat given off in the oxidation of a given quantity of any material is called its "heat of combustion," and is taken as a measure of its latent energy.

It has been found that the quantity of heat required to

raise the temperature of one pound of water through any four degrees of the Fahrenheit scale is practically the same.

HOW THE WEIGHT OF FOOD MATERIALS PRODUCING ONE HUNDRED CALORIES IS MEASURED

For practical work in computing the fuel value of foods, it has been found more convenient to reduce all data to terms which express equal weight. The weight of a food which, when burned in the body, will produce one hundred calories is the desired datum. This weight is termed a standard portion or one hundred-calorie portion.

How to determine the Caloric Value of any food.

It is necessary to know the composition, percentage of protein, fat and carbohydrate to determine the caloric value of any food; with such percentage at hand in one hundred grams, by moving the decimal point two places to the left, is found the value of one gram.

Multiply this amount by the number of grams called for; then multiply the protein and carbohydrates by 4 and the fat by 9.

The total energy value of one loaf of bread weighing 12 oz. is 880.4 calories.

By referring to Bulletin No. 28 of U. S. Department of Agriculture, Washington, D. C., we find that white bread yields on the average 9.3 per cent protein, 1.2 per cent fat, 52.7 per cent carbohydrate. The loaf of bread weighing 12 oz.

To get the weight of protein, fat and carbohydrate in grams, we must first convert the total weight of bread into grams.

1 oz. = 28.35 grams. 12 oz. = 340.2 grams.
Then $340.2 \times 0.093 = 31.64$ grams protein
 $340.2 \times 0.012 = 4.08$ grams fat
 $340.2 \times 0.527 = 179.28$ grams carbohydrates

Multiply the amount of each nutrient by the proper factor.

31.64 grams protein	× 4 = 126.56 calories
4.08 grams fat	× 9 = 36.72 calories
179.28 grams carbohydrates	× 4 = 717.12 calories

Total 880.4 calories

How to Determine the Total Energy Value of any Combination of Food.

To calculate the total energy value of any combination of food; it is necessary to compute the fuel value of each ingredient and take the sum of the whole group.

Baked Custard:	protein	fat	carbohydrate
1 egg	2 oz. 7.5%	5.3%	
1 cup milk	8 oz. 3.3%	4.0%	5.0%
2 tbsp. sugar	1 oz.		100.0%
Egg: 1 oz. = 28.35 grams	2 oz. = 56.70 grams		
	56.70 × .075 = 4.25 grams protein		
	56.70 × .053 = 3.01 grams fat		
	4.25 grams protein × 4 = 17 calories		
	3.01 grams fat × 9 = 27.09 calories		

Total 44.09 calories

Milk: 1 oz. = 28.35 grams	8 oz. = 226.80 grams		
	226.80 × .033 = 7.4844 grams protein		
	226.80 × .040 = 9.0720 grams fat		
	226.80 × .05 = 11.34 grams carbohydrates		
	7.4844 grams protein	× 4 = 29.9376 calories	
	9.0720 grams fat	× 9 = 81.6480 calories	
	11.34 grams carbohydrates	× 4 = 45.36 calories	

Total 156.95 calories

Sugar: 1 oz. = 28.35 grams			
	28.35 × 1.00 = 28.35 grams carbohydrates		
	28.35 × grams carbohydrates × 4 = 113.40 calories		
	Total	113.40 calories	
	44.09 + 156.95 + 113.40 = 314.44 calories		

To estimate the fuel value of any Diet, it is simply necessary to compute the food value of each material used and add the results.

		protein grams	fat grams	carbohydrate grams	calories
1 glass milk	8 oz.	8.0	9.3	12.	169
1 egg	1½ oz.	5.4	4.2		60
1 slice bread	1 oz.	2.6	0.3	15.	73
1 tbsp. butter	½ oz.	0.1	12.1		109
1 potato	3½ oz.	2.2	.1	18.4	83

Total calories 494

The following is accepted as the energy value of food in the body:

1 oz. protein yields 116 calories

1 oz. carbohydrates yields 116 calories
 1 oz. fat yields 264 calories

Knowing this, it is possible to calculate the food value of a given amount of any food by referring to a table which gives the chemical composition of food, such as Bulletin 28, Office of Experiment Stations, United States Department of Agriculture.

For example, to find the nutritive value of bread, we get the percentage composition of bread from the bulletin referred to which is:

Protein 9.3 per cent. Fat 1.2 per cent. Carbohydrates 52.7 per cent.

This means that one ounce of bread contains 93-1,000 oz. of protein, 12-1,000 oz. of fat, and 527-1,000 oz. of carbohydrate.

Therefore, to reduce from per cent to calories we multiply as follows: $9.3 \times 1.16 = 10.79$, $1.2 \times 2.64 = 3.17$, $52.7 \times 1.16 = 61.13$. Total: 75.09. Therefore one ounce of bread yields:

Protein	Fat	Carbohydrate	Total
10.79	3.17	61.13	75.09

A pound loaf of bread contains $75.09 \times 16 = 1201.44$ calories.

We can find the nutritive value of a custard made from the following ingredients:

1 egg..... 79.5 calories
 1 cup milk.....161.6 calories
 2 tbsp. sugar..... 77.6 calories Total, 318.7 calories

To find the number of calories in a meal or in the food for a day, simply add the number of calories in all the different articles eaten together.

ENERGY REQUIREMENT OF THE BODY; ESSENTIAL FOOD ELEMENTS

1. Protein which builds blood and tissue of which the average daily requirement is 160 to 300 calories. 2. Fats,

which support work and heat, of which the body needs daily 500 to 900 calories. 3. Carbohydrates, consisting of starch and sugar, dextrin, and organic acids (the acids of fruits and vegetables) of which the average daily requirement to supply energy for work and heat production is 1,000 to 1,800 calories.

Authorities differ greatly in the amount of food required daily, but it may safely be said that the number of calories should rarely exceed 2,400. The amount of energy required by the body varies with the season, with the weather and with the amount and kind of work done. Hard physical work and exposure to low temperature demand the largest food supply. A person engaged in active muscular work requires from one-sixth to one-fifth more food than the average. The increased quantity of food should be chiefly in the form of fats and carbohydrates rather than proteins. Adults require food chiefly to repair wastes and losses. Growing children require in addition, material for tissue building. Practically, the proportionate weights of the several elements required by the average man are one of protein, three of fats and six of carbohydrates. In a dietary of 2,400 calories, this would be 240 protein, 720 fat and 1,440 calories carbohydrates.

Of course, the amount of food required is different under different conditions. A child needs less food than a young adult, and an old person needs less than a young adult. The colder the weather, the greater the amount of food required. The greater the amount of work done the more food needed. A person of nervous temperament requires more food than one of a quiet disposition. A tall, slim person requires more food than a short, thickset person, this is because the amount of food required varies with the amount of skin area, since the greater amount of heat radiated from the skin of a tall, slim person has a larger skin area than a short person who weighs the same.

Ten per cent of the total should be protein, and twenty-five to thirty per cent fat, and the remainder carbohydrate.

DIET TABLE

Food Values according to Individual Service, giving the number of Calories of Each Food Principal in an Ordinary Serving:

Oz. in ordinary serving	Proteins	Fats	Carbohydrates	Total
$\frac{1}{4}$ Almonds	24.5	146.4	20.2	191.1
$3\frac{3}{4}$ Apples, Baked	.6	1.3	28.4	30.3
$5\frac{1}{2}$ Apples, Fresh	.5	1.3	16.6	18.4
6 Apple Juice	.0	.0	17.	17.
$3\frac{1}{2}$ Apple Sauce	.3	.8	20.65	21.75
$2\frac{3}{4}$ Apple Tapioca	2.6	.66	36.	39.26
3 Apricots	1.3	.0	15.6	16.9
$3\frac{1}{2}$ Apricot Sauce	1.2	.0	20.5	21.7
$1\frac{3}{4}$ Asparagus, cooked	2.5	8.8	2.6	13.9
3 Asparagus in cream.....	2.8	17.	4.9	24.7
$3\frac{1}{2}$ Bananas	1.5	1.6	25.7	28.8
$3\frac{1}{2}$ Bananas, Baked	3.2	2.73	32.37	38.3
6 Barley Gruel	1.5	.7	10.2	12.4
$4\frac{3}{4}$ Bean Broth	4.3	3.2	11.6	19.1
$3\frac{1}{4}$ Beans, Baked	10.	12.5	33.6	56.1
4 Beans, Butter	5.48	.8	17.	23.28
$2\frac{1}{4}$ Beans, Green Lima.....	4.7	.8	17.	22.5
$2\frac{1}{2}$ Beans, Navy, Cooked.....	8.1	1.47	21.38	30.95
4 Beans, String, Cooked....	.9	2.9	2.2	6.
4 Beans, Wax, Cooked.....	1.2	.3	3.6	5.1
3 Beet Greens, Cooked.....	2.6	9.1	3.7	15.4
$2\frac{1}{4}$ Beets, Cooked	2.7	.3	8.6	11.6
3 Blackberries	1.5	2.6	12.7	16.8
3 Blackberry Sauce	.8	3.3	29.1	33.2
$3\frac{1}{2}$ Blanc Mange, Chocolate ..	3.4	22.86	16.25	42.51
$2\frac{1}{4}$ Blueberries	.7	1.6	19.4	21.7
$4\frac{3}{4}$ Bouillon, Tomato	3.62	7.98	4.77	16.37
$4\frac{3}{4}$ Vegetable Soup	7.	4.3	7.	18.3
$\frac{1}{2}$ Brazil Nuts	19.8	178.1	8.2	206.1
3 Bread Custard	8.75	46.08	67.25	122.08
2 Bread, Corn	8.5	12.3	52.	72.8
2 Bread, Graham	10.4	4.6	60.8	75.8
2 Bread, Rye	10.5	1.6	62.1	74.2
2 Bread, White	9.3	3.7	63.4	76.4
2 Bread, Whole Wheat	11.3	2.4	58.	71.7
$4\frac{3}{4}$ Vegetable Broth	2.8	.0	.5	3.3

Oz. in ordinary serving	Proteins	Fats	Carbohydrates	Total
2¼ Brown Gravy	1.5	30.7	3.9	36.1
1¼ Buns	7.3	17.3	66.8	91.4
6 Buttermilk	3.5	1.3	5.6	10.4
4 Cabbage, Boiled	.8	6.1	1.9	8.8
3¾ Cabbage, Creamed	1.5	8.1	3.7	13.3
2 Cake, Frosted	6.8	24.	74.9	105.7
3 Cake, Jelly Roll	5.8	9.4	85.2	100.4
1½ Cake, Sponge	12.4	14.2	94.2	120.8
6½ Cantaloupe	.7		10.9	11.6
3¾ Carrots, Creamed	2.01	7.5	10.3	19.8
½ Nuts, English Walnuts....	19.4	169.2	18.2	206.8
4¼ Oatmeal, Cooked	3.3	1.3	13.4	18.
1 Oatmeal Wafers	13.7	29.6	80.5	123.8
4½ Oats, Rolled, Cooked.....	3.3	1.3	13.4	18.
½ Olive Oil		264.1		264.1
1½ Olives, Ripe	2.	69.1	5.	76.1
4 Omelet	14.	59.	1.	74.
2½ Onions, Boiled	1.13	4.29	5.1	10.52
3 Onions, Creamed	1.73	14.6	5.6	21.93
5 Orange Juice			15.1	15.1
1 Orange Sauce	2.6	32.25	68.7	103.55
5 Orange	.9	.5	13.5	14.9
3 Parsnips, Browned	2.	11.85	11.31	25.2
3 Parsnips, Creamed	2.56	6.5	17.29	26.35
3 Parsnips, Mashed	1.7	5.9	9.5	17.1
2½ Rice Patties	14.9	39.4	77.24	131.54
6 Pear Juice			25.6	25.6
4 Pears	.7	1.3	16.5	18.5
4 Pears, Cooked	.7	1.1	23.3	25.1
3 Pears, Green	7.8	9.1	17.5	34.4
3 Pears, Puree	8.5	9.	17.5	35.
4½ Pie, Apple	7.5	18.	37.2	62.7
4 Pie, Blackberry	8.18	14.36	43.1	65.64
3¾ Pie, Blueberry	5.2	12.7	47.4	65.3
3¾ Pie, Coconut Cream	6.46	23.	31.31	60.77
4 Pie, Custard	4.9	16.8	30.5	52.2
4 Pie, Cherry	8.2	14.6	46.	68.8
4 Pie, Date Cream.....	10.4	21.4	21.9	53.7
4 Pie, Lemon	7.94	26.9	38.7	73.54
5 Pie, Mince	15.09	22.2	35.1	72.39
5 Pie, Pumpkin	3.25	7.26	24.88	35.39
5 Pie, Raspberry	8.18	14.36	43.1	65.64
5½ Pie, Squash	4.27	22.7	36.5	63.47
4 Pineapple	.5	.8	11.3	12.6
5 Pineapple Juice			21.8	21.8
3½ Pineapple Sauce	.5	.9	19.4	20.8
4 Plums	1.2		23.5	24.7
2¾ Plum Sauce	1.1		36.3	37.4

Oz. in ordinary serving	Proteins	Fats	Carbohydrates	Total
½ Popped Corn	12.5	13.3	91.8	117.6
3 Potatoes, Baked	3.4	.4	28.9	32.7
3½ Potatoes, Browned	3.5	5.17	29.4	38.07
3 Potatoes, Boiled	2.9	.3	24.4	27.6
4¼ Potatoes, Escalloped	3.6	10.7	21.	35.3
3¾ Potatoes, Mashed	3.	8.	20.8	31.8
3½ Potatoes, New, Creamed ..	3.2	12.87	18.74	34.81
3 Potatoes, Sweet, Browned	4.11	11.25	59.7	75.06
3½ Chocolate Pudding	4.95	23.5	30.38	58.83
3¾ Cream Rice Pudding	4.25	22.1	19.63	45.98
3 Cauliflower, Stewed	1.	6.2	.3	7.5
1 Celery	1.3	.3	3.9	5.5
2 Cheese, Cottage	19.9	12.4	5.1	37.4
2¾ Cherries	1.2	2.2	19.5	22.8
3 Cherry Sauce	1.2	2.	29.4	32.6
2 Cocoanut	6.6	134.9	32.5	174.
¾ Cornflakes	10.8	1.4	91.3	103.5
2¾ Corn, Green Sweet, Cooked	3.6	2.9	22.	28.5
2¾ Cream	2.9	49.3	5.3	57.5
2 Cucumbers	.9	.5	3.6	5.
1¾ Dates	2.5	7.5	91.5	101.5
3 Egg Macaroni	5.45	20.7	9.34	35.49
1½ Eggplant	6.63	26.43	37.9	70.96
2½ Eggs, Poached on Toast...	14.1	18.28	25.36	57.74
1¾ Eggs Poached	16.3	32.		48.3
2 Eggs, Scrambled	14.1	23.7	1.45	39.25
8 Eggnog, Milk	5.9	23.	9.	37.9
3 Endive	3.3	1.	4.93	9.23
½ English Walnuts	19.4	169.2	18.2	206.8
2 Figs	.5	8.	86.6	95.1
½ Filberts	18.2	174.1	15.2	207.5
3 Floating Island	5.45	12.4	21.6	39.45
2½ Gooseberries, Stewed	.5		18.9	19.4
6 Gruel, Oatmeal	1.3	1.4	5.8	8.5
4 Gruel, Potato Meal	1.	.1	10.2	11.3
6 Gruel, Rice	.7	1.2	5.8	7.7
4½ Hominy	2.6	.5	20.7	23.8
1½ Honey	.5	.	94.7	95.2
1 Jelly, Currant	1.2		90.1	91.3
3 Jelly, Cherry			16.6	16.6
2 Jelly, Cranberry	.38	1.01	49.7	51.09
3 Jelly, Lemon			30.57	30.57
2¾ Jelly, Orange			36.4	36.4
3 Jelly, Pineapple			41.06	41.06
5½ Lemonade			14.2	14.2
3 Lentils, Cooked	8.5	.3	22.9	31.7
1¼ Lettuce with Lemon	1.1	.6	5.	6.7

Oz. in ordinary serving	Proteins	Fats	Carbohydrates	Total
3 Macaroni in Tomato	5.	3.86	17.16	26.02
1¼ Maple Syrup			83.	83.
6½ Milk, Skim	4.	.8	6.	10.8
6 Milk, Whole	3.8	11.	5.8	20.6
¾ Nut Butter	34.2	124.	20.	178.2
½ Nuts, Beech	25.5	153.1	15.4	194.
½ Nuts, Butter	32.5	163.2	4.1	199.8
½ Nuts, Brazil	19.8	178.1	8.2	206.1
½ Nuts, Filberts	18.2	174.1	15.2	207.5
½ Nuts, Hickory	18.	179.7	13.3	211.
½ Nuts, Pecan	11.2	188.	17.8	217.
2½ Pudding, Date	7.2	23.3	66.75	97.25
2¾ Pudding, Fig	4.7	15.3	34.7	54.7
1 Radishes	1.5	.3	6.7	8.5
3 Raisins, Cooked	2.	5.8	57.6	65.4
4 Raspberries	2.	2.6	14.7	19.3
5 Raspberry Juice			29.4	29.4
3¼ Raspberry Sauce	1.6	2.2	27.5	31.3
4 Rice, Boiled	3.3	.3	28.5	32.1
4½ Rice, Browned	3.88	.34	39.72	43.94
4½ Rice, Creamed	3.28	9.91	21.18	34.37
1½ Salad, Apple & Celery....	2.26	4.27	26.16	32.69
2¼ Salad, Banana	1.5	1.9	32.5	35.9
2 Salad, Cabbage	1.9	18.2	17.2	37.3
2½ Salad, Date and Apple....	2.5	5.8	45.8	54.1
½ Salad, Dressing		198.07	2.85	200.92
2¼ Salad, Fruit	1.98	2.54	26.8	31.32
2¼ Salad, Potato	4.56	25.77	15.06	45.39
2½ Salad, Vegetable	4.3	4.8	9.2	18.3
1¾ Sandwiches, Egg	10.	50.12	39.09	99.21
1¾ Sandwiches, Fig	6.08	30.47	53.66	90.21
1½ Sandwiches, Jelly	7.4	38.6	70.61	116.61
1¾ Sandwiches, Lettuce	6.8	38.2	37.	82.
4¾ Soup, Bean	9.4	4.	24.7	38.1
4¾ Soup, Cream Celery.....	2.8	19.	4.7	26.5
4¾ Soup, Corn	3.5	18.5	10.	32.
3¾ Soup, Cream of Pea.....	5.9	18.	13.2	37.1
4¾ Soup, Cream of Potato....	2.7	19.2	9.	30.9
4¾ Soup, Cream of Tomato..	2.8	20.	5.96	28.76
4¾ Soup, Cream of Vegetable				
Oyster	2.4	21.	4.6	28.
3 Spinach	3.3	1.	4.93	9.23
2½ Squash	1.6	2.2	16.	19.8
4 Strawberries	1.2	1.6	8.6	11.4
3½ Tomatoes, Breaded	1.3	4.5	7.9	13.7
2½ Tomatoes, Stewed	1.4	.5	4.7	6.6
4 Tomatoes, Sliced	1.	1.1	4.6	6.7
4 Turnips, Mashed	.6	2.8	2.7	6.1
8 Watermelon	.5	.5	7.8	8.8

FIVE PER CENT CARBOHYDRATE FOODS

Asparagus, lettuce, okra, spinach, dandelion greens, Swiss chard, cabbage, cauliflower, celery, radishes, leaks, tomatoes, Brussels' sprouts, watercress, sea kale, sorrel, endive, rhubarb, beet greens, salsify, eggplant, cucumbers, ripe olives grapefruit, butternuts, pignolias.

TEN PER CENT CARBOHYDRATE FOODS

Onions, turnips, squash, carrots, mushrooms, beets, kohlrabi, pumpkin, rutabagas, lemons, oranges, cranberries, strawberries, blackberries, gooseberries, peaches, pineapple, watermelon, Brazil nuts, black walnuts, hickory nuts, pecans, filberts.

FIFTEEN PER CENT CARBOHYDRATE FOODS

Green peas, artichokes, parsnips, green lima beans, apples, pears, apricots, blueberries, cherries, raspberries, almonds, English walnuts, beechnuts, pistachios, pinenuts.

TWENTY PER CENT CARBOHYDRATE FOODS

Potatoes, shell beans, baked beans, green corn, boiled rice, boiled macaroni, plums, bananas, prunes, peanuts.

The factors used in computing the caloric value are those recommended by Sherman and are as follows:

One gram protein yields four calories.

One gram carbohydrates yields four calories.

One gram fat yields eight and nine-tenths or nine calories.

Five per cent., thrice cooked vegetables are considered carbohydrate free.

THRICE COOKED VEGETABLES

The vegetables are cleaned, cut up fine, soaked in cold water and then strained. The vegetables are then tied up

loosely in a large square of double cheese cloth, large enough to allow the vegetables to swell without sticking together. they are then transferred to fresh cold water, placed on the fire and allowed to reach one-hundred-fifty degrees Fahrenheit (150 F). This water is poured off and replaced by water of the same temperature, which is brought to the boiling point, and then the water again poured off and repeated again. The pots for the vegetables should be of sufficient size to hold a large quantity of water. Vegetables thus cooked will keep in cold storage for two or three days, and can be reheated in a steamer.

thus the most valuable part of the vegetables, the mineral salts and vitamins are destroyed and discarded and only the "mushy haze" is left for consumption.

This is awful!

3.

CHAPTER IV

Dairy Terms and Dairy Products

More or less misunderstanding of dairy terms and phrases is frequently met with and often causes confusion. Dairy products are among the cheapest and most wholesome of foods, and in the attempt to solve and reduce the high cost of living, are being used to a greater and greater extent. Following are some of the most common dairy terms defined:

Pure Milk—Is the fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained fifteen days before and ten days after calving.

Modified Milk, or Blended Milk—Is milk which has been so treated as to contain a definite proportion of one or more of its constituents. It is usually standardized so as to contain some definite per cent of fat, and must be sold as standardized or blended.

Homogenized Milk—Is milk that has been so treated as to break up very finely the fat globules in the milk. This is done by forcing the milk through a small opening under high pressure, and the mixture of milk and fat is so complete that it is practically impossible to separate the cream from such milk. It is claimed to be more digestible, and has a richer, more creamy appearance.

Condensed Milk—Is milk from which a large part of the water has been removed (by heat) with or without the addition of cane sugar.

Evaporated Milk—Is unsweetened condensed milk. It was formerly sold as evaporated cream quite often, but this is misleading and is now prohibited.

Dessicated Milk or Dried Milk, Milk Powder—Is milk from which practically all water has been removed. It has excellent keeping qualities, the original consistency of the milk being restored by the addition of water. Three grades are made, skim milk, full milk and full cream.

Clarified Milk—Is milk from which all foreign substances such as epithelial cells, dust, etc., have been removed by centrifugal force, but without separating the cream. As some sediment can be removed from the purest milk, the value of the process is evident.

Renovated Butter or Process Butter—Is the product made by melting butter and reworking, without the addition or use of any chemicals or substances, except milk, cream or salt. These products are quite extensively used in cookery, although they are in no way equal to butter. It can be made for much less than butter, but is seldom sold for much less.

Oleomargarine or Oleo—Is an imitation of butter, using beef fats as a basis. It can be made for much less than butter, but is seldom sold for much less.

Alkaline Milk—One quart skim milk heated to 100 degrees F. add 3 2-3 oz. 10 per cent acetic acid. Let stand fifteen minutes. Drain and rub to a paste and add one pint water. Strain and repeat twice., Rub it up again and add 2½ per cent potassium hydrate until it is alkaline. Add 3 1-3 oz. cream, 1 grain saccharine, and add water enough to make 1 quart.

YOGURT

Yogurt tablets are a preparation of the famous Oriental ferment, the most active of which is the bacillus *Bulgaricus*. It was discovered by Gregoroff of Geneva.

The ferment is recommended and used by the most noted European physicians, and is recognized as one of the most effective of all means of combating intestinal auto-intoxication, thus preventing and aiding in the cure of a great many chronic ailments.

YOGURT, No. 1

1 qt. Milk

4 Yogurt Tablets

Heat the milk to boiling in a double boiler for ten minutes. Cool to about 95 degrees F. Add the yogurt tablets (manufactured by the Battle Creek Food Co., Battle Creek, Mich.), dissolved in a little of the warm milk. Set in a warm place, covered, for twenty-four hours, or until it begins to coagulate; set in the refrigerator until cold, then beat until perfectly smooth. To renew, take one-half cup of this yogurt as a starter for each gallon of warm milk instead of using the tablets. It will take several days to develop an acid flavor. As the yogurt gets stronger, use less of the starter. It should be started fresh from the tablets about once a week.

YOGURT, No. 2

1 qt Milk

1 Lactone Tablet

Make the same as Yogurt No. 1, using the lactone or Buttermilk tablets (manufactured by Park, Davies & Co., Detroit, Mich.)

Skim Milk or Separated Milk—Is milk from which all or part of the cream has been removed.

Sanitary Milk—Is milk produced and handled under cleanly and sanitary conditions. This term is used quite recklessly and too often means nothing more than a catch phrase, its value depending upon the reputation and integrity of the user.

Inspected Milk—Is milk which has been produced under the supervision and inspection of city or state officials. Its

value will depend largely upon the kind of officials and their inspections.

Certified Milk—Is milk produced under the control and inspection of a Medical Milk Commission. It is the highest grade of milk produced, altho too costly for ordinary use.

Standard Milk—Is milk that conforms to the standard laid down by State or Federal authority; such standards are usually chemical, but may also be bacteriological. Milk, to comply with the Federal standard must contain, at least, 8.5 per cent solid, not fat, and 3.25 per cent fat.

COMPOSITION OF CREAM

Protein	2.7%	Water	66%
Lactose	2.8%	Fat	26.7%
Mineral matter		1.8%	

Cream is the portion of the milk rising to the surface by standing.

Cream varies in composition according to the circumstances under which it rises. In the process of churning, the membranes of casein which surround each of the little globules constituting the cream are broken, and the fat of which they are composed become a compact mass, known as butter. The federal standard for cream is 18 per cent fat.

Cream is more easily digested than butter, and since it contains other elements besides fat is likewise more nutritious. In cream the fat is held in the form of an emulsion, which allows it to mingle freely with water.

COMPOSITION OF MILK

Protein	3.4%	Water	87%
Lactose	4.9%	Fat	4%
Mineral matter		0.7%	

The value of milk as food is evident from the fact that it constitutes the natural food of all young during the

period of their most rapid growth, but for adults solid food is essential. One obtains the greatest benefit from milk when taken alone, or at regular intervals between meals or before retiring. It should be sipped rather than drunk. Milk contains representatives of all the classes of foods, and therefore contains all the elements required for nutrition.

The proportion of the elements in milk of different animals varies greatly, so that it is not possible to give an exact analysis.

Milk is the most important of all foods. It is a perfect food, a complete food, and a protective food. It contains all the elements required by the body for proper nourishment.

The food substances in milk are all digestible and there is no waste.

Milk contains an additional substance lacking in nearly all other foods, except butter, ice cream and cheese. Without this vital substance, children cannot grow nor can adults have perfect health.

The skin which forms on top of the milk when it boils is a protein called albumin—and it hardens with the heat, forming this skin on top of the milk. It hardens on the sides and bottom of the vessel in which it is cooked.

It is true that most of the calcium is carried down and deposited on the bottom of the vessel when the milk is boiled or heated to a high temperature, just as lime deposits on the bottom of the tea kettle in which hard water is heated. This calcium is a most essential food element, particularly for the growing babe and the small child who are depending upon it very largely for bone and teeth structure. Therefore, milk heated to boiling temperature is unfit for feeding babies.

COMPOSITION OF BUTTER

Fat	93%	Casein	0.71%
Water	5.34%	Mineral matter	0.95%

Butter is the clean non-rancid product made by gathering the fat of fresh or ripened milk or cream into a mass, (usually by churning) which also contains a small portion of the other milk constituents, with or without salt. Butter is a free fat. It should be kept in a cool place and well covered, otherwise it is liable to become rancid. This is due to the albuminous constituents of the milk, acting as a ferment, setting free the fatty acids.

Poor butter has not been thoroughly worked during manufacture; consequently more casein remains, and therefore it is more apt to be rancid. Butter which has become rancid by too long keeping may be greatly improved by sterilizing, heating, and quickly chilling with ice water.

The butter will rise to the top, and may be easily removed, or strained through three or four thickness of cheesecloth to remove the casein. It may be then poured into bottles and corked up. If thus treated when fresh, butter may be kept almost indefinitely.

The composition of butter varies so greatly, owing to the different animals and to the process of manufacture, that it is impossible to give an exact analysis.

COMPOSITION OF BUTTERMILK

Protein	4.1%	Fat	2.5%
Lactose	3.6%	Water	89%
Mineral matter		0.8%	

Buttermilk—Is the product that remains when butter is removed from milk or cream in the process of churning, and when taken fresh is a wholesome beverage. It is valuable for the lactic acid it contains, and is very easily digested, owing to the absence of fat and to the fine form the casein is in. It has also certain laxative properties, which make it valuable in certain diseases.

A great deal of the buttermilk sold in the larger cities is "artificial," that is, it is made by souring skim milk and

then churning or agitating it to give it the appearance more like that of real buttermilk.

Whey—Is the product remaining after the removal of fat and casein from milk in cheese-making, and is of small nutritive value. It contains water, salt, and some sugar. It is beneficial in some cases, in that it contains slight laxative properties.

Sour Milk—A germ found floating in the air attacks a portion of the lactose of the milk, converting it into lactic acid. This in turn acts upon the casein (protein) and precipitates it, producing what is known as curd and whey.

Pasteurized Milk—Is milk which has been exposed for a short time to some temperature below the boiling point, followed by rapid cooling to fifty degrees or lower, and holding at the same temperature. The growing or vegetative forms of bacteria are killed but not all of the spore-bearing. This may be done by putting the milk as soon as received into the inner dish of a double boiler; set into the outer dish which has been filled with boiling water, cover and heat the milk rapidly (154-196 degrees F.) and keep it at this temperature for half an hour. Remove from the stove and cool quickly.

Sterilized Milk—Is milk in which all forms of life have been killed. This can be accomplished by prolonged or excessive high heat, chemical or similar means. Sterilizing is a wise precaution in preventing the spread of disease through infected milk.

The best results are obtained when the milk is put in closed jars and reheated in a double boiler and kept at or near the boiling point for half an hour. Milk so treated will keep without undergoing the usual fermentation to which milk is subject, so long as the jars are kept closed. It will, however, soon sour after the cans are opened.

CHAPTER V

Healthful Cookery

Cooking has come to be a science, and in the preparation of food for the table one should not trust to mere chance or luck.

A thorough knowledge is of primary importance, as well as good food. Healthful cookery is not receiving the attention which its importance demands. It occupies a comparatively small place in the culinary world today.

Food must be properly prepared to be well digested and thoroughly assimilated. On this depends largely our physical well-being.

One good cook can do more good than a dozen physicians.

Definition of Cooking—Cooking is the art of preparing food for the nourishment of the body.

Cooking includes the preparation of food without heat. Fresh fruits, nuts, frozen dishes, salads, fruit beverages and some vegetables are prepared without heat. Dried cereals and most vegetables as well as some fruits are rendered more easily digestible by the application of heat.

Digestibility—The digestibility and nutritive value of cooked food depends to a great extent upon the manner in which it is cooked and served. The time and temperature of cooking should be carefully considered in relation to the constituents of the food material.

Principles of Successful Cookery—Success in cooking depends in part upon the quality of material used, which should be the best. The measurements must be accurate. Carefulness in combining ingredients, and one should know

the effect of various methods of cooking of the food under consideration.

Training and experience are necessary for success. The choicest food is often spoiled in its preparation because of a lack of the fundamental principles of good, plain, hygienic cookery.

Unless the food is prepared in a wholesome, palatable manner, it can not be converted into good blood to build up the wasting tissues.—T. Vol. 2, page 538.

"Food should be thoroughly cooked, nicely prepared, and appetizing. The food should have been prepared in a simple form, and free from grease; but pains should have been taken to have it nutritious, healthful and inviting."—Ministry of Healing, pages 300-303.

"Whatsoever thy hands find to do, do it with thy might."—Eccl. 9:10.

"Whether therefore ye eat or drink, or whatsoever ye do, do all to the glory of God."—1 Cor. 10:31.

To be competent in the art of cooking, one must have a knowledge of foods, their combining qualities, nutritive value and the proper method of preparing them so that they may retain their natural flavors and nutritive elements.

It is claimed by food scientists that 90 per cent of human ills originate from the stomach and are caused by eating wrong and unnatural combinations of foods, and that these ills can be cured by making the diet chemically harmonious, rather than resorting to drugs.

Hygienic cookery requires the attainment of these objects through simple processes and the exclusion of all unwholesome ingredients; such as chemical leavening agents, vinegar, pepper, mustard, and all irritating condiments; also the exclusion of free fats.

Object of Cooking—1. Food is cooked to develop new flavors and make it more palatable. 2. To soften it that

it may be more readily masticated and more digestible. 3. To produce chemical changes which increase digestibility. 4. To destroy micro-organism and parasites which may be present in raw food.

There are few foods which are not rendered better adapted to the needs of the body by proper cooking. Food well cooked is always well digested.

Effect of Heat—Protein is coagulated by hot water and dry heat, cold water dissolves soluble proteins, especially if salt is present.

Starch is converted into dextrin by dry heat at a temperature of 320 degrees F.; the starch granules dissolve in boiling water; cold water separates starch grains.

Sugars are changed to caramel by high temperature.

Fats are readily decomposed by heat, with production of free fatty acids.

Choice of a Method of Cooking any Food—These include: 1. A knowledge of the effects of heat and moisture on the digestibility of the articles to be cooked. 2. The relation of the method to the extraction of soluble portions of food materials.

The following are the principal methods employed in the cooking of foods:

BOILING

Boiling as applied to cookery means cooking in a boiling liquid. Boiling is one of the most common forms of cooking, and is the best way of cooking many kinds of foods which need the action of water or liquid combined with heat.

When water becomes too hot to bear the hand in it with comfort, it has reached the scalding point, or 150 degrees F. Water boils when there is quite a commotion on the surface and bubbles that rise to the top throw off steam when broken; it has reached 212 degrees F. The import-

ant fact is rarely thought of, that when water reaches boiling point it gets no hotter, no matter how hard it boils, because the excess heat escapes in the steam, and much fuel is wasted because of the idea that violently boiling water cooks food more quickly. On the other hand, it drives away the savory elements of the food, rendering it much less palatable, if not altogether tasteless.

Boiling expels all the air and gases which give fresh water its sparkle and vitality; therefore the sooner water is used after it begins to boil the more satisfactory will be the results.

Food should be put to cook in cold or boiling water according to the object to be obtained in their cooking. Cold water should be used when the nutritious elements are to be extracted, such as soups and broths. When foods are to be kept intact as much as possible, they should be put to cook in boiling water. Salt water should be used when it is desired to retain the flavors and soluble parts, as in most greens and vegetables.

Cold water extracts albumen; hot water coagulates it. Cold water acts very slightly upon starch, and draws it out of vegetables; while boiling water bursts starch grains, and is absorbed by the swelling starch, so as to occupy nearly the whole volume of water. It softens the cellulose in cereals and vegetables.

Milk is best heated in a double boiler, because it, being thicker than water, becomes hot sooner, adheres to the bottom of the pan, and burns easily.

At its boiling temperature, 214 degrees F., the casein contained in the milk is slightly hardened and its fat rendered more difficult of digestion.

When anything begins to boil, it should be kept at a steady boil until done; the temperature should be kept as nearly even as possible, except it may gradually fall at the end.

BAKING

Baking is the cooking of food by dry heat, as in a closed oven. The closely confined heat of the oven develops flavors which are not obtained by any other form of cooking.

The foods most adapted for cooking by this method are those which contain considerable moisture, and it is very important that every cook understand how to regulate the oven, because the baking of some foods is as important as the mixing.

Most all flour mixtures, such as bread, cakes, and some kinds of pudding, are more wholesome when baked, provided they are thoroughly cooked.

Large loaves of bread require one hour and fifteen minutes to bake thoroughly. Usually moderate heat is better than intense heat.

BROILING OR GRILLING

Broiling is cooking over a radiant heat, over glowing coals, or over clear fire.

Pan-broiling is broiling on a hot surface instead of fire or hot coals.

A soapstone or gridiron is excellent for this purpose. The intense heat, combined with the free action of the air, applied to the food, soon sears its outer surface, prevents the juice from escaping, and produces a fine flavor.

If the food is frequently turned, so that its entire surface will be thus acted upon, and the heat gradually lowered, the interior of the mass will be cooked by its own juice. The high temperature rapidly imparted by radiation to the surface of a piece of food forms a superficial crust of hardened and semi-carbonized albumen and fiber that resists the outrush of vapor, and produces within a certain degree of pressure which acts in loosening the fibers. The hotter the fire and the oftener the mass is turned the better.

STEAMING

Steaming is the cooking of food by steam. It is a very satisfactory and convenient method, without much loss of substance, and requires less attention.

There are several ways of steaming. The most common way is to place the food in a perforated dish over a vessel of boiling water, the steam carrying the heat directly to the food.

Another way is by means of a double boiler, placing the food, with or without water as needed, in a closed vessel, which is placed inside another containing boiling water. By this method the heat is conveyed from the boiling water to the food through the inner boiler.

The water should boil steadily until the food is done. Watery vegetables are made drier by steaming.

Another method is that of placing the food in a covered dish in a hot oven, cooking it in its own juices, which is sometimes called "smothered;" or it may be placed in another dish of hot water and covered closely, called a double baker.

STEWING

Stewing is cooking in a small quantity of liquid for a long time, at a temperature just below the boiling point, which is most easily secured by using a double boiler. Food that is stewed loses less nutriment than when rapidly boiled, and holds its form better.

Dried fruit, soaked over night in scalding, sweetened water, and stewed in the same several hours, is excellent.

BRAIZING

Braising is a combination of stewing and baking, and should be done in a deep pan with a close-fitting cover, so as to confine the heat and steam, thus cooking the food in its own vapor.

This method of cooking is especially to be recommended when the article to be cooked is tough and flavorless, broth or stock and flavorings being put in.

Braized dishes are highly esteemed, the success of which depends on slow cooking for a long time, which is best done in the oven.

ROASTING

Roasting is cooking by exposure to heat. The food is cooked in its own juices. This method may be used by the clear, open fire or in the oven, according to the character of the article of food to be cooked.

If done in the oven, it requires long and slow cooking, and is one of the best ways of preparing food. The oven should, for the first fifteen minutes, be very hot, then kept at a moderate heat only. The food may or may not be dredged with flour, but should be basted frequently.

SIMMERING

Simmering is slow or gentle, steady boiling. This is best done in the oven, because anything cooked in the oven has a better flavor than when cooked on top of the stove. This method is often mistaken for stewing.

FRYING

Frying means the complete immersion of the article to be cooked in boiling fat, and is a method not to be recommended, because fat is rendered less digestible by cooking or heating to a very high degree, which is from 350 to 450 degrees F. (without motion) because fat will not bubble like water when it boils.

In the process of frying, the action of the heat partially decomposes the fat; in consequence, various poisonous substances are formed, highly detrimental to the digestion of the partaker of the food. Fat is not acted upon by the

gastric juice, therefore a morsel of food thus encrusted with fat remains undigested in the stomach, and also interferes with the digestion of other food elements of which it is composed.

If such foods are habitually used, digestion will soon become slow, and the gastric juice so deficient in quantity that fermentation and putrefactive changes are caused resulting in serious disturbance of health.

SAUTÉING

What is ordinarily understood by frying—that is, cooking an article on both sides with just enough fat to cover the bottom of the pan—is properly termed *sautéing*, and is the most unwholesome way of preparing food.

COMBINING INGREDIENTS

Great care should be taken in measuring and combining foods in preparing them for cooking, because a most important principle underlying success in cooking is accuracy in measurements. Many excellent recipes prove a failure from carelessness.

Stirring—By stirring is meant a continuous motion, round and round. The object is to blend the materials. This is not necessarily done in one direction, as some suppose. In blending flour and water, use a wire egg-beater.

Beating—Beating is for the purpose of incorporating as much air in the mixture as possible. It is altogether different from stirring, and the two should not be combined. It is done by dipping the spoon or wire beater in and out, cutting clear thru and lifting from the bottom with each stroke, so as to bring the under part to the surface.

Breads, butter, and cakes may be made light, without the use of baking powder or soda, by being thoroughly beaten and baked in a hot oven.

Kneading—This process is performed after the mixture is too stiff for stirring and is in the form of dough. It combines the materials more thoroughly together, and also serves to incorporate air.

This may be the most easily done by gathering up the dough from the edges with the tips of the fingers, turning and pressing it with a sort of rocking motion with the palms of the hands.

Cutting and Folding—Cutting and folding is a combination of two motions, or the introduction of one ingredient or mixture by two motions with a spoon or wire egg-beater,—a repeated vertical, downward motion, known as cutting, and a turning over and over of the mixture, allowing the spoon or the beater each time to come in contact with the bottom of the dish. Thus turning of the ingredients over and over so as to bring the under portion to the surface each time is called *Folding*. Folding is to prevent the air already introduced from escaping.

THICKENING AGENT

The common thickening agents are flour, cornstarch, rice flour, potato flour, arrow-root, eggs, also gelatin, sea-moss, junket for milk, and pectin of unripe fruits, stiffen liquids on cooling.

PROPORTIONS

One level tablespoon of flour will thicken one cup of liquid for soups.

Two level tablespoons of flour will thicken one cup of drippings or other liquids for gravies and sauces.

Five level tablespoons of browned flour will thicken one cup of liquid for gravy.

Four level tablespoons of cornstarch will stiffen about one pint of liquid, as in cornstarch pudding.

Eight level tablespoons of cornstarch will stiffen one

pint of liquid, as in cornstarch mold, or blanc mange; stiff enough to cut.

Two good sized eggs to one pint of milk make a custard; one egg to a cup for soft custard or baked cup custard; three eggs to a pint of milk for a large mold custard.

The thickening power of cornstarch is about twice that of flour.

SHORTENING

Fats are added to doughs to make the product brittle, friable, 'short,' and to enrich the mixture. The fat counteracts the adhesive properties of the gluten and starch in flour.

Pastry flours contain less gluten than bread flours and so require less shortening.

Butter and oleomargarine contain about one-eighth water and salt, and thus have less shortening powers than crisco, snowdrift or cottolene,—which contain no water.

PROPORTIONS

Two cups of flour (eight ounces) made into puff paste require eight ounces (one cup) of shortening.

Two cups of flour in ordinary pie crust require four ounces (one-half cup) of shortening.

Two cups of flour in cake require two ounces (one-fourth cup) of shortening or more.

Two cups of flour in tea biscuits require one-half to one ounce (one to two tablespoons) or more of shortening.

In yeast doughs less shortening is used—from one-half to an ounce to two cups of flour. The tenacity of the gluten is required to hold the carbon dioxide gas slowly formed by the yeast, hence too much shortening prevents proper rising.

Shortening for batters may be melted and mixed in, but in doughs which are to be rolled—pastry, cookies, short cake, biscuit, etc,—the fat should be cold and hard and cut into the flour with a knife, or rubbed in with the tips of the fingers.

WEIGHTS AND MEASURES

Exact proportions, or correct measuring, is as essential to good cooking as to the work of the chemist. Carefulness is necessary to insure success in cooking.

A standard measuring cup is a tin or glass half-pint cup, divided into fourths, thirds and halves.

Exact measurements call for level measurements.

The tablespoon and teaspoon should be the regulation size.

To measure a cupful, fill to a little more than the brim by placing materials into the cup with the spoon, never dragging the cup through dry materials. With the cutting edge of the knife brush off all materials which are piled above the brim. Do not shake the cup to level the materials. For measuring liquids fill just to the brim.

A heaping cupful is measured level, with two tablespoonfuls extra added.

A scant cupful is measured level, with two tablespoonfuls taken out.

A rounding spoonful is one that presents the same convex appearance above the edge of the spoon as at the bottom; or when fully rounded, it holds just twice as much as a level spoonful.

To measure a level spoonful, fill the spoon and level it off with the back of a case-knife.

A half spoonful is measured by dividing through the middle lengthwise.

A quarter spoonful is measured by dividing one-half

spoonful cross wise again, allowing a little more for tip of spoon.

To measure butter or other solid fats, pack solidly into spoon or cup and level with knife.

A speck or pinch is what can be placed within one-fourth square inch surface; or a little less than one-eighth of a teaspoon.

All measurements used are level unless otherwise stated.

It may be necessary to vary the recipe somewhat, owing to the variation in the materials. Recipes in which flour plays an important part are only guides, as different grades of flour require varying amounts of liquid. When eggs are the chief constituent the number of eggs may be varied according to size.

Materials which pack, such as flour, cornmeal or powdered sugar, should be stirred before measuring.

A speck or pinch	$\frac{1}{4}$ salt spoon
$\frac{1}{4}$ teaspoon	1 salt spoon
3 teaspoons	1 tablespoon
4 tablespoons	$\frac{1}{4}$ cup or $\frac{1}{2}$ gill
16 tablespoons liquid	1 cup
16 tablespoons dry material (level)	1 cup
8 tablespoons dry material (rounding)	1 cup
2 gills	1 cup
2 cups	1 pint
2 pints	1 quart
4 quarts	1 gallon
4 cups	1 quart
1 tablespoon melted butter	1 ounce
2 tablespoons butter (not melted)	1 ounce
2 tablespoons liquid	1 ounce
4 tablespoons flour	1 ounce
2 tablespoons granulated sugar	1 ounce
1 cupful liquid	8 ounces
1 heaping tablespoon powdered sugar	1 ounce
30 drops liquid	1 teaspoon
1 heaping spoon salt	1 ounce
4 wineglassfuls	1 cupful
16 ounces	1 pound
2 cups granulated sugar	1 pound

2½ cups powdered sugar	1 pound
1 pint salt	14 ounces
2 cups butter (packed solid)	1 pound
2½ cups brown sugar	1 pound
1 cup cornstarch	6 ounces
1 cup cornmeal	5 ounces
1 cup shredded cocoanut	4 ounces
1 cup currants	6 ounces
1 cup seeded dates	6 ounces
1 egg	1½ ounces
1 egg-yolk	½ ounce
10 medium sized eggs	1 pound
1 cup rice	½ pound
1 wine glass	½ gill
1 cup chopped nuts	4 ounces
1 cup rolled oats	3 ounces
1 cup molasses	10 ounces
4 cups sifted flour	1 pound
3 cups unsifted flour	1 pound
1 cup stale bread crumbs	2 ounces
1 cup cleaned currants	6 ounces
1 cup steamed raisins	6 ounces
2 teaspoons	1 dessertspoon
2 dessertspoons	1 tablespoon
Juice of one lemon	(about) 3 tablespoons
1 square Baker's unsweetened chocolate	1 ounce

ABBREVIATIONS

1 tsp.	1 teaspoon	1 tbsp.	1 tablespoon
1 cup or c.	1 cup	1 gi.	1 gill
1 pt.	1 pint	1 qt.	1 quart
1 hp. sp.	1 heaping spoonful	1 lev. sp.	1 level spoonful
1 r. sp.	1 rounding spoonful	1 pk.	1 peck
1 gal. or g.	1 gal.	1 bu.	1 bushel
1 lb.	1 pound	1 dsp.	1 dessertspoonful
1 oz.	1 ounce		

TIME TABLE FOR COOKING

Apples, baked, sour, 30 m., medium hot oven	Escalloped dishes (uncooked), 40-60 m., medium oven
Apples, baked, sweet, 2-3 hrs., medium hot oven	Gems and muffins, 25 m., fairly quick oven
Asparagus, 20 m., boiling	Loaf cake, 40-60 m., moderate oven
Beets, 1½-3 hrs., boiling	Macaroni, 15-20 m., boiling
Bread rolls, 25 m., quick oven	Onions, 2½-3 hrs., boiling
Carrots, 3 hrs., boiling	

Cauliflower, 20 m., boiling	Parsnips, 45-60 m., boiling
Cookies, 8 m., moderate oven	Peas, 30-50 m., boiling
Corn, green, 15-20 m., boiling	Potatoes, 30-45 m., boiling
Cornmeal, 1 hr., direct boiling, 4 hrs. in double boiler	Potatoes, baked, 45-60 m., quick oven
Cream of wheat, 30 m., direct boiling, 2 hrs. in double boiler	Rice, 20-30 m., boiling
Custard pudding, 30-45 m., med- ium hot oven	Rolled oats, 45 m., direct boiling 2-3 hrs. in double boiler
Custard in cup, 30 m. moderate oven	Rolls and biscuits, 15-20 m., quick oven
Dried beans, 2½-3 hrs., boiling	Sago, 45 m., in double boiler
Eggplant, baked, 30 m. hot oven	Salsify, 2 hrs., boiling
Eggs, soft, 3-4½ m., just below boiling	Spinach, 30 m., boiling
Eggs, hard, 30-60 m., just be- low boiling	Squash, 1-1½ hrs., boiling
Eggs, medium, 5-10 min., just below boiling	String beans, 2½ hrs., boiling
Escalloped dishes, (already cooked), 15-20 m., quick oven	Sweet potatoes, baked, 45 m., quick oven
	Tapioca, 1½ hrs., in double boiler
	Tomatoes, 20 m., boiling
	Turnips, 1½-2 hrs., boiling

DEMONSTRATIONS IN COOKING

ADAPTABILITY OF DEMONSTRATOR

It is often desirable to give instruction in cooking, at small expense, to a large group of women. Without doubt, beginners in cooking will get much more from a lesson in which the actual work, from start to finish, is done by each individual, but the cost of material and equipment for such work is often impossible and the demonstration is decided as the next best thing.

A certain number of dishes are prepared in the presence of a group of women, who are thus enabled to go home and prepare these and similar dishes intelligently. If more demonstrations are given at any one place, the classes can be graded and the subjects prepared in a more scientific manner.

The demonstrator must try to adapt her work to the needs of each one present,—young girls without any ex-

perience in cooking, women who have no knowledge of food values, graduates of domestic schools, and women with no incentive but to get something in fancy cooking..

The demonstrator, having everything in readiness before hand, must combine the ingredients in the several dishes accurately, she must watch carefully over the cooking; while her talk, explanatory of the various processes, must be constant and of sufficient interest to hold the attention of the audience. No one who is not quick of hand and alert of mind can expect to succeed as a demonstrator.

EQUIPMENT NECESSARY

The equipment best suited for giving a view to the greatest number of people is where the table and stove of the demonstrator are on the floor and the seats are raised, one above the other, around the front and sides.

The table behind which the demonstrators stand, should be small, and it should hold nothing but the articles needed for the dish that is being prepared.

At the right of the demonstrator, and well forward, should stand the stove, with oven opening directly in front of the audience. A second table at the back of the demonstrator is desirable; upon this should be placed the utensils and materials needed for the dishes later in the demonstration. These should be disposed in groups, all the articles belonging to any one dish being grouped together, and in such a manner that they may be set before the demonstrator with the fewest possible trips between the tables.

When possible, especially if the demonstrations are to be given daily for a week or more, a refrigerator in the background, near the table of supplies, will be found most helpful.

SUBJECTS FOR DEMONSTRATIONS

Have a subject; then let the dishes prepared be such as will illustrate the subject by preparing the dishes. In the first dish, keep close to the ideas set forth in the definition, then illustrate by giving variations from the main idea. When all the dishes are prepared, give a short review of the main points or principles taught or illustrated, and emphasize the points in each dish upon which a successful result depends.

Such subjects as bread, soups, salads, entrees, sandwiches, and desserts are each more than sufficient for a complete demonstration, but sometimes the attention of a mixed or ungraded audience can be held more closely if the subject chosen will include the presentation of dishes of a more diversified character.

As a rule, emphasize principles, not recipes; teach in such a manner that as large a proportion of the audience as possible may be able to formulate other recipes of the same class, with different ingredients from those you have used. Though you do not teach recipes, you must know the list of ingredients and the quantity to be used in any dish. The proportion of liquid and thickening for sauce, a batter, or a dough, or the amount of seasoning for a cup or a pint, once learned can be easily remembered.

The demonstrator should be able to prepare the dish without giving too close attention to the process; be able from much experience to do the work almost automatically, for you must be able to talk while the hands are occupied.

Study the main subjects and the various secondary subjects from every side. You must be filled with the subject, and have so trained the memory that the sight of certain articles of food, certain dishes and methods of procedure, will stimulate the mind to recall interesting and helpful suggestions in regard to each.

PREPARATION OF MATERIALS BEFOREHAND

To insure rapid completion of the work, prepare in advance, as far as possible, the various ingredients used. Have all tedious processes completed in advance, show how each is done, and have some of the finished product passed around the class, while you go and complete the dish.

ORDER OF WORK AND TIME OF DEMONSTRATION

Begin the lesson with the preparation of the dish that takes the longest time to cook, or in case of some fruit ices or gelatine desserts. The number of dishes that may be prepared in the demonstration depends on the time required for each and the length of time to be given to the demonstration. It is better to have the demonstration too short than too long.

CHAPTER VI

Outline Studies in Domestic Science

The following list of questions and suggestive answers may be used in this Elementary study of Domestic Science.

Part 1—Food—Food Elements and Composition.

Part 2—True Basis of Reform—Original Diet of Man—Fundamental Principles and Object of Successful Cookery.

Part 3—Foods and Their Dietetic Value—Digestion of Food—Food Combinations—Invalid Dietary—School Lunches.

Part 4—This part is devoted to practical work.

COURSE OF LESSONS

PART ONE

1. What is food? Why is it needed by the body? See pages 6, 7.

2. Give the elements composing the body. See page 8.

3. Why must the elements composing the body be found in the food? See page 9.

Composition of food—Foods must contain the same elements found in the body; thus it is that they are able to build and maintain the body structure. But no "one food" contains all these elements in proper proportions for all persons; therefore, it is by combinations of various food-stuffs that we produce a suitable diet. These elements must further be supplied in forms which the body can use. See page 7. Practical Dietetics—Pattee, page 4.

4. What are the main functions of food in the body?
See page 7.

"Nothing is in the strict sense a food unless it performs at least one of three functions: First, that of building the body; Second, furnishing heat; and Third, giving power to work." "Food and Dietetics," American School of Home Economics, page 30.

5. Into what two general classes are foods divided?

Organic and inorganic.

Classify them. See pages 9, 10.

6. Name and classify the seven elemental classes. See page 10, and "Home Dietitian" by Belle Wood Comstock, pages 9 and 10.

7. Give their functions. See page 12.

Which of the food principles is most important? See page 15.

8. Give examples of each food nutrient. See page 14.

9. What is meant by proteins? See pages 14, 15.

They are the muscle and tissue building foods.

What do the proteins include? See page 15.

10. What per cent of food required per day should be of protein? See pages 15, 43.

11. How does gelatine differ from true proteins? How may it be obtained? What is its source?

Gelatine is a nitrogenous food classed with proteins under the division called gelatinoids or albuminoids, and derived from "collagen" the chief constituent of connective tissue with its various modifications, such as tendons, ossein of bone, keratin,—the horny material present in the hair and in the horns and hoofs of animals, hide clippings yield glue, a crude form of gelatine, isinglass, which is obtained from the swimming bladder of the sturgeon and other fish and is considered the purest form of gelatine. All these named may be changed into gelatine by boiling. Gelatine is insoluble in cold water, but when allowed to stand in it will

swell from the absorption of water. Although gelatine is a protein food, it cannot alone support life; in it two important acids are lacking. Gelatine has often been called a "protein sparer," rather than a true protein. The vegetable gelatine (or agar-agar) is very easily prepared and hardens in a short time without being put on ice. This makes a more tender jelly than animal gelatine, and has the advantage of being free from the diseases which are so common among animals.

12. What is meant by carbohydrates? See page 20.

They are the foods which furnish heat and energy.

13. Name the most important carbohydrate from the standpoint of food.

"Starch is the most important of the carbohydrates from the standpoint of food." "Food and Dietetics," American School of Home Economics, page 45.

What per cent of our food should belong to this class? See pages 20, 43.

14. How do fats differ from carbohydrates?

What is their source? See pages 27-29.

They are of both animal and vegetable origin.

15. Is fat essential as an article of diet? See page 29.

Fat most certainly is essential.

How is it best employed? See page 29.

16. What can you say of the value of cereals as a food? How should they be prepared? See page 314.

"Wherever it is possible to grow grains, they are staples of man's diet. No food products of the vegetable kingdom equal them in importance. They are cheaply and easily grown, and contain all the food principles in unusually good proportion. Cooking improves cereals in many ways. For the average person, proper cooking has almost as much to do with the nutriment finally obtained as the proportions of nutrients originally present. Cooking to convert nutrients into more digestible forms is very important in the case of

cereals which contain so much starch. The softening of cellulose is more perfectly accomplished by cooking a long time in the presence of a large amount of moisture, as in steaming, or cooking with water or milk in a double boiler." "Practical Dietetics"—Pattee, pages 233, 235. "Ministry of Healing," page 301.

17. What is the value of a fruit diet? Pages 56, 57.

"Ministry of Healing," page 299, "Testimonies" Vol. 7, page 126. "Farmer's Bulletin," page 293.

PART TWO

18. What is the true basis of reform?

"Whether therefore ye eat, or drink, or whatsoever ye do, do all to the glory of God." 1 Cor. 10: 31; Gen. 1: 31.

"The progress of reform depends upon a clear recognition of fundamental truths—The foundation of all enduring reform is the Law of God." "Ministry of Healing," pages 129, 308. "Testimonies," Vol. 2, page 70.

19. How may we know which are the best foods? See pages 47, 50.

Gen. 1:29, "Ministry of Healing," pages 295-296.

20. When was the herb of the field added to man's diet? See page 50.

Gen. 3: 17, 18.

When was man permitted to eat flesh? See page 50.

Gen. 9: 3, 4.

21. In what words is the desire of God expressed for every human being?

3 John 2; 1 Cor. 10: 31.

22. Why is flesh meat not a reliable standard to follow in the selection of a well balanced dietary? See page 51.

"Ministry of Healing" page 311. "Testimonies" Vol. 2, page 64, Vol. 3, page 488.

23. Why were spices introduced? See page 7.

When man earned his food by labor, ate moderately,

and not too often, he needed no strong spices to stimulate his appetite, and simple foods appealed to him. When luxury, confinement, and inactivity came in, with greater opportunity to tickle the palate, delicacies and a variety of spices were added to tempt the appetite.

What is their effect? See page 40.

Indigestion and disease followed as a natural result. While it is unwise to use highly seasoned foods, it is by no means wise to go to the other extreme, and attempt to live on foods that are unpalatable. Such a course will invariably result in indigestion.

"Ministry of Healing" page 325, "Testimonies" Vol. 2, page 368.

24. What is the effect of overeating? See page 48.

First, indigestion. Second, if the habit is continued, gradual changes in the stomach walls, leading finally to permanent dilatation. "Testimonies" Vol. 2, page 364.

25. Why is it not best to follow the popular custom of placing the food upon the table in courses?

"Ministry of Healing" page 306. "Custom has decreed that the food shall be placed upon the table in courses. Not knowing what is coming next, one may eat a sufficiency of food which perhaps is not the best suited to him. When the last course is brought in, he often ventures to overstep the bounds, and take the tempting dessert, which, however, proves anything but good for him. If all the food intended for a meal is placed on the table at the beginning of the meal, one has opportunity to make the best choice."

26. Why then is it best to place all the food intended for a meal on the table at the beginning? "Ministry of Healing," page 306.

27. Why should we not eat a large variety of food at one meal? See page 48.

"Testimonies," Vol. 2, page 63.

"There should not be a great variety at any one meal,

for this encourages overeating, and causes indigestion."

"Ministry of Healing," page 299.

28. How should we make our variety? See page 48.

"The meals should be varied. The same dishes, prepared in the same way, should not appear on the table meal after meal and day after day. The meals are eaten with greater relish, and the system is better nourished, when the food is varied." "Ministry of Healing," page 300.

29. Why should we be very careful to avoid all extreme views in diet? See page 43.

"Testimonies" Vol. 9, pages 161-163. "Ministry of Healing," pages 318-324.

"It is impossible to make an unvarying rule to regulate everyone's habits, and no one should think himself a criterion for all. Not all can eat the same things. Foods that are palatable and wholesome to one person may be distasteful and even harmful, to another." "Ministry of Healing," pages 319, 320.

30. Give a list of good combinations. See page 44.

Give a list of bad combinations. See page 44.

31. What place does the art of cooking occupy among the sciences? See page 97.

"Testimonies" Vol. 2, page 370; Vol. 7, page 113; Vol. 1, pages 681, 689.

"It is a sacred duty for those who cook to learn how to prepare healthful food. Many souls are lost as the result of poor cookery. . . . Cooking is no mean science, and it is one of the most essential in practical life." "Ministry of Healing," page 302.

32. What are the fundamental principles of successful cookery? See pages 97, 98.

"Ministry of Healing," pages 300-303.

"Foods should be thoroughly cooked, nicely prepared, and appetizing. The food should have been prepared in a

simple form, and free from grease; but pains should have been taken to have it nutritious, healthful, and inviting."

Do cooks usually attain the best results in the preparation of foods? If not, why not? See page 98.

33. What is the real object of intelligent cooking? See pages 98, 99.

"Ministry of Healing," pages 302-303.

First, to render food more digestible; Second, the skillful development of flavors.

PART THREE

34. Why must food be relished in order to nourish? See pages 48, 66.

"Ministry of Healing," page 300.

"Only recently, comparatively, have scientists discovered the reason why food that is relished is easier to digest. They have discovered that those digestive juices, which we are so apt to think of as having, each one, its own definite composition—the gastric juice composed of such-and-such and the intestinal juice composed of so-and-so—vary in composition according to the kind of food each is called upon to digest. That is, they vary within the limits of the ingredients of each . . . But when we eat anything that we exceedingly relish, so that our mouths water at the sight and the smell of it, and its taste on our tongue is delicious to the last degree, then a kind of mixture is secreted to which its discoverer (Pavlov) gave the name of 'Appetit-jus,' or the digestive fluid secreted when the appetite for any food is keen and ravenous. This kind of secretion he found to differ from all the others in that it is able to digest practically everything Being able to cook well, and to make the simplest kind of dish taste as good as it possibly can, so that we, and all whom we love well enough to cook for, may eat with great relish, so that the 'food which they relish will be well digested.' "

"American Cookery" extract from "Talks to Teachers of Domestic Science," by Mary D. Chambers.

35. Where are proteins digested? See page 72.

Name the various proteins which yield us the organic nitrogenous nutrients in our foods. See pages 10, 18.

36. Should protein foods be cooked under a high or low temperature? See page 18.

Give reasons why. See pages 18, 19.

37. Where are starchy foods digested? See page 72.

Give rules for cooking starchy foods. See page 26.

38. Tell where fats are digested. See pages 69, 70.

Give reason why fried foods are unwholesome. See page 103.

39. What is cellulose? Where is it found and what does cooking do to it? See page 26.

Why is it necessary that we have bulky food? See pages 26, 27.

In the first place, they prevent overeating, and, Second, they stimulate the digestive organs to action.

40. Into what two general classes are vegetables divided? See page 208.

Name the coarse or fibrous vegetables.

Name the finer or fruity vegetables. See page 208.

41. Give rules for cooking vegetables. See page 209.

Why is it essential that vegetables be well cooked? See page 207.

42. Describe the two general classes of soups.

Give reason why cold water should be added to cut vegetables in making soups. See page 100.

43. Describe the general method for making cream soups, and give the reason why.

44. Why are acid fruits and coarse vegetables a bad combination? See pages 44, 45.

"Ministry of Healing," page 299.

45. Why is sweet milk and acid fruit a bad combination when taken together?

Under ordinary circumstances, the body provides a ferment to curdle the milk when eaten, which cuts it up into small featherlike threads. When acid fruit is eaten with the milk, it forms the milk into hard curds in the stomach and often causes great suffering. If eaten together at all, they should be thoroughly masticated.

46. What attitude should we take in regard to the free use of sweets? See page 233.

"Ministry of Healing," page 302.

47. What is the unit or standard of heat production? See page 79.

Give the caloric equivalent of one gram. See page 80.

48. What is meant by nutrient ratio?

To put in terms of the nutrient ratio the difference between the diet of the child and that of the adult—in the adult the diet ratio is about 1 : 5, 3 in the diet of the child, 1 : 4, 3.

49. Into what two classes are breads divided?

Fermented or yeast bread and unfermented breads.

50. What is essential in making good bread? See page 290.

"Ministry of Healing," page 301.

51. What are the characteristics of good bread? See page 291.

"Ministry of Healing," page 301.

Nutritious, palatable, and digestible.

52. What are the chief steps in the manufacture of flour?

What are the tests of good flour?

The best bread flour is not pure white, but yellowish in tint and readily retains the impression of the fingers, if pressed together in the hand. It always has a slightly gritty

feeling, while pastry flour is much smoother and more velvety to the touch. "Food and Dietetics," page 101, 107.

53. Define yeast, and give the chief kinds that are in common use.

Liquid, compressed and dry yeast.

54. What caution should we observe about the use of chemicals in our bread? See page 302.

"Ministry of Healing," page 300. "Testimonies," Vol. 2, page 537.

55. Give the different methods of canning and preserving foods. See pages 363, 368.

56. Why is it important that the nurse understand food and cookery? See pages 97, 133.

Food for the sick should be such as will furnish the most nourishment with the least tax upon the digestive organs. While it should be of a simple nature, yet it should be cooked with the greatest care and served in the most inviting manner.

"Ministry of Healing," pages 219-222. "Testimonies," Vol. 2, page 384: 2.

"The true science of feeding should be thoroughly studied that we may understand what properties enter into food, what elements the system demands in order to build or to repair, by what means the necessary substances are best supplied, and how to prepare them that the body may maintain its efficiency, so that in case of illness the least possible demands on the digestive and assimilative function may be made."

57. What should be the appearance of the tray in service to the sick? See page 135.

What should be the temperature of the food served to the sick? See page 135.

"Practical Dietetics," pages 85-86.

58. What are some of the general principles which guide in making out a balanced menu? See page 46.

59. Why is it important that the school lunches should be intelligently selected?

"One of the most important defects among a large class of children is malnutrition. This is often due not so much to the lack of sufficient food as to the ingestion of improper food. Recent investigations have also shown that a great many children come to school breakfastless, and that many of them content themselves with but a very slight lunch, often consisting of ingredients insufficient for nutrition and improper for digestion. It is absurd to endeavor to teach the child and to train its mind while its body suffers from lack of nourishment. A healthy mind can exist only in a healthy body."

"Hygiene and Sanitation for Nurses," page 151.

60. What are the essential points to be considered in selecting food for school children?

Digestibility and Nutrition.

The child's food should be simple, easily digested, and nutritious, natural and not artificial. Children should be given a chance to cultivate a liking for a large range of food, both for their health and for the "manners." Meals balanced and well chosen that the child may learn by precept and example what correct meals are like, because children are quick to imitate.

PART FOUR

The following suggestive course of lessons may be modified by the teacher according to convenience, or the length of time given to class periods. Of the great variety of ways in which foods may be prepared into dishes that are healthful and nourishing, only a few of the most practical can be taken up in this course. It has been proven that small classes are the best; eight pupils should constitute a class. Two lessons each week, with a class period of two hours. Previous to each lesson a talk should be given on

food principles, food products, and their dietetic value, illustrated, if possible, by charts and blackboard drawings:

Lesson One: Breakfast Cereals, Baked Apples, Dry Toast, Milk Toast.

Lesson Two: Cream of Corn Soup, Baked Potatoes, Cream Rice Pudding.

Lesson Three: Boiled Eggs, Corn Bread, Prune Whip.

Lesson Four: Vegetable Soup, Bean Patties, Tomato Sauce, Bread Pudding, Whipped Cream.

Lesson Five: Fruit Soup, Walnut Loaf, Brown Gravy, Apple Pie.

Lesson Six: Spanish Rice, Noodles, Cottage Cheese, Baked Egg Plant, Lemonade.

Lesson Seven: Vegetable Salad, Spinach, Cream of Pea Soup, Floating Island, Canning and Preserving.

Lesson Eight: Vegetable gelatine, Orange Jelly, Lemon Sauce, Rolled Jelly Cake, Pineapple Gelee, Fruit Nectar.

Lesson Nine: Invalid Dietary, Gruels, Drinks, Vanilla Egg-nog, Baked Custard, Whole Wheat Gems, Apple Whip.

Lesson Ten: Cream Tomato Soup, Yeast Breads, Rolls, Escalloped Potatoes, Sandwiches, Yogurt, Sterilized Milk.

CHAPTER VII

Course of Lessons in Sickroom Cookery

ARRANGED FOR NURSES' TRAINING CLASS

The following suggestive course of lessons may be modified by the instructor according to local conditions, or the length of time given to class periods. It has been proven that small classes are the best; eight pupils should constitute a class. Two lessons should be given each week with a class period of two hours. Previous to each lesson a talk should be given on food principles, food products and their dietetic value, and, if possible, illustrated by charts and blackboard drawings:

LESSON 1

Chemical composition of body

Food: Illustrate and define

Why necessary?

Cream of Pea Soup, Rice and Walnut Patties, Baked Potatoes, Lemon Whip

LESSON 2

Foods: Classification

Relations each class bears to the body

Condiments and Spices

Fried Foods

Vegetable Soup, Protose and Rice Patties, Chili Sauce, Floating Island

LESSON 3

Food: Correct proportions

Well-balanced dietaries

Fruit Juices

Food Value
 Digestibility
 Broths
 Cream Tomato Soup, Baked Bananas, Stuffed Potatoes,
 Gluten Biscuits

LESSON 4

Cookery: Define
 Why necessary
 Methods of cooking
 Water supply
 Cold Beverages
 Fruit Soups
 Lemonade, Orangeade, Fruit Nectar, Grape Juice

LESSON 5

Milk supply
 Dry Toast, or Zwieback—Practical work
 Buttered Toast
 Hot Beverages
 Coffee
 Tea
 Cocoa and Chocolate
 Albuminized Milk
 Sterilized or Pasteurized Milk
 Potato Cakes, Cream Rice Pudding

LESSON 6

Proteins:
 Composition
 Sources
 Food Value
 Digestibility
 Baked Beans, Mock Chicken Stew, Cottage Cheese, Walnut
 Loaf, Brown Gravy

LESSON 7

Proteins:

How Affected by Cooking

Eggs

Egg Desserts

Stews

Meat Substitutes

Bean Patties, Tomato Sauce, Poached Eggs, Soft Boiled Eggs, Nut and Vegetable Stew with Dumplings, Cup Custard

LESSON 8

Carbohydrates:

Composition

Source

Food Value

Digestibility

Cream of Wheat, Browned Rice, Nut and Potato Pie, Escaloped Potatoes, Bread Pudding, Vanilla Sauce or Whipped Cream

LESSON 9

Carbohydrates:

How Affected by Cooking

Fruits, Rules for Cooking

Food Value

Digestibility

Wheatena, Baked Apples, Stewed Prunes, Grape Apple, Fruit Salad, Orange Sauce

LESSON 10

Starch:

Composition

Source

Food Value

Digestibility

How Affected by Cooking

Cereals: Rules for Cooking

Potato Rivel Soup, Cornbread, Cream of Barley Soup,
Spanish Rice, Macaroni au Gratin

LESSON 11**Sugar:**

Composition

Sources

Food Value

Digestibility

How Affected by Cooking

Sugar Substitutes

Apple Jelly, Popcorn Candy, Candied Fruit, Butter Scotch

LESSON 12**Cellulose:**

Sources

Food Value

Digestibility

Why necessary

Creamed Carrots, Mashed Turnips, Bran Mush with
Raisins, Bran Gems, Granose Drop Cakes

LESSON 13**Vegetables:**

Source

Food Value

Digestibility

Why necessary

Rules for Cooking

Cream of Corn Soup, Baked Eggplant, Mashed Potatoes,
Browned Sweet Potatoes, Cream Rice Pudding

LESSON 14

Fats and Oils:

Composition

Sources

Digestibility

Combustion

Why necessary

Consomme with Croutons, Nutmeat Pie, Escalloped Corn,
Cream Cocoanut Pudding

LESSON 15

Desserts:

Digestibility

Gelatine:

Source

Food Value

How Affected by Cooking

Orange Jelly, Lemon Jelly, Fruit Jelly, Whipped Cream

LESSON 16

Frozen Desserts:

Digestibility

Chemistry of Freezing

Sherbets and Ice Cream, Pineapple Gellee, Frozen Straw-
berries, Chemical Leavenings, Oatmeal Cookies

LESSON 17

Pies:

Cakes:

Composition

Digestibility

Conservation Recipes

Cherry Pie, Pumpkin Pie, Sponge Cake, Boiled Icing, Orna-
menting

LESSON 18

Salads

Sandwiches

Unfermented Breads

Vegetable Salad, Waldorf Salad, Mayonnaise Dressing,
Golden Salad Dressing, Garnitures, Nut and Olive
Sandwiches

LESSON 19

Food for the Sick:

Liquid Foods and Gruels

Eggnoggs

Food for Diabetic Patients

Vegetable Broths

Prune Whip, Banana Whip, Cream Rice Gruel, Oatmeal
Gruel, Cream Gluten Gruel, Barley Gruel

LESSON 20

Principles of Canning and Preserving

Principles of Bread Making

Food Combinations

Planning the Meal

Balanced Menus—Practical Work

CHAPTER VIII

Feeding the Sick

Diet is of the greatest importance in the care of the sick, because life depends upon the food. It is nourishment that supplies the strength and power to regain health. For this reason, the greatest care and skill should be exercised, not only in selecting and preparing food for the sick, but even in the manner of offering it to them.

In case of a cold or sore throat, the food should be in such form that the greatest amount of nourishment can be taken most easily and with as few acts of swallowing as possible. This is accomplished by giving food in concentrated liquid form and given in small amounts at frequent intervals. Fruit juices are of great value for just this reason that the nourishment they supply is predigested and they supply mineral elements and acids that are medicinal and assist the body in fighting disease.

Drinking Water.—Another thing of great importance is the drinking of large quantities of water (hot water at first, to induce perspiration) hot or cold lemonade, orange juice and vegetable broth to the amount of three or four quarts a day. This will dilute the blood, thus diluting the poisons to which the symptoms of the diseases are due, and eliminating them by increasing the activity of the skin and kidneys.

Fruit Juices.—The nourishment contained in the fruit juices and the vegetable broth will be of the character best suited to aid in recovery, and in many cases will be all that is needed for the short period that the disease will last, if energetically attacked with the measures described, along

with the proper hydrotherapeutic measures. If these measures are not begun soon enough to insure a quick recovery, other foods may be added, but care must be taken not to overfeed the patient.

The reason we have not suggested the use of beef broth, beef tea or meat broth of any kind to be used in any case of illness is that these substances serve only to introduce into the body waste matters of which in all kinds of sickness, the body has too large a supply. Meat broths contain practically no nutrition. Many people have starved to death by misplaced confidence in beef tea.

The Purpose of Food.—The purpose of food is to supply material for repairing the waste which is constantly taking place, therefore it should always be chosen with reference to its nutritive value. But during illness when the waste is much greater, and the vital powers less, the food should be of such a character as will supply the proper nutrition.

Preparation of Food.—There is no branch of the culinary art which requires more skill than that of preparing food for the sick and feeble.

In the preparation of food for the sick a scrupulously clean dish is of the first importance. Unless cleaned with the utmost care it will sometimes impart a sufficiently unpleasant flavor to the food to render it wholly unpalatable to an invalid.

Food for the sick should be palatable, nutritious, and easily assimilated. To discern what food will supply these requisites one must have a knowledge of dietetics and physiology as well as of the nature of the illness with which the patient is suffering, and such a knowledge ought to be part of the education of every intelligent person, especially the nurse.

Digestibility.—An article of food may contain all the elements of nutrition in such proportions as to render it a

wholesome food for those in health, and not be proper food for those who are sick, for the reason that the conversion into blood and tissue lays too great a tax upon the digestive organs.

Simplicity.—The simplest foods are always the best because they most readily assimilate. There are no special dishes suitable alike for all cases. Hot buttered toast, tea, coffee, rich jelly, and other dainties so commonly served to the sick, are usually the very worst articles of diet of which they could partake. As a general rule elaborate dishes are not suitable.

Neatness.—Neatness and care in all the minute particulars of the cooking and serving of food for invalids will add much to palatableness. The appearance and manner of offering have much to do with its acceptance or rejection.

THE TRAY

A few suggestions to the nurse as to the best and simplest methods of arranging the tray and a few of the important details.

These things may seem trivial, but it must be remembered that the horizon of the sick room is limited, and that the patient who has long been confined to bed with a serious illness thinks much of his immediate surroundings.

He may seem too ill to notice these details, whereas he is only too ill to speak of them, for one feeds with the eyes quite as much as with the lips, and by some carelessness of the nurse the appetite of a refined, fastidious, or nervous patient may be wholly destroyed.

While the natural stimulants to appetite, such as fresh air, exercise and enlivening companionship, are necessarily wanting, the taking of food is the chief event of the day, and too much care can not be bestowed upon its preparation and service.

Attractive Arrangement of Tray.—The cover and arrangement of tray is of the utmost importance, and the slightest departure from regularity and immaculate cleanliness should be avoided.

The tray should be covered with a fine linen napkin, without crease or wrinkle, the best you can afford. Use the choicest silver, daintiest china and glass ware, arrange neatly and conveniently. Place a rose or flower on the tray; a quotation added as a variety will often attract the attention, and it is well, when possible, to divert the patients mind from his ailments while eating in these little ways and also by the introduction of some cheerful and interesting topic of conversation.

How to Serve.—The time of cooking food to be served, should be carefully considered in relation to the time of serving, for most palatable food may be spoiled by not serving it at the proper time.

Avoid serving too many things on tray. Cover tray with a clean napkin or tray cover in carrying it to its destination. When the diet is very limited in variety, the patient is often gratified by having his food served in courses and will eat more than if given everything at once.

Quantity of Food Served.—Only a small quantity should be served at one time. Thinly sliced bread, toast, or crackers, and a bright cup partly filled with hot gruel, or cereal, are more appetizing to the invalid than coarse ware, and an overflowing cup of gruel. The cup or glass should be filled to within one inch of the top.

Temperature of Food.—The temperature of the food served is exceedingly important, as it has a marked influence upon digestion.

Foods that are ordered hot should be served hot, not merely warm when they reach the patient, in heated dishes and covered in transit.

Cold drinks and fruits are more healthful when served cool than ice cold.

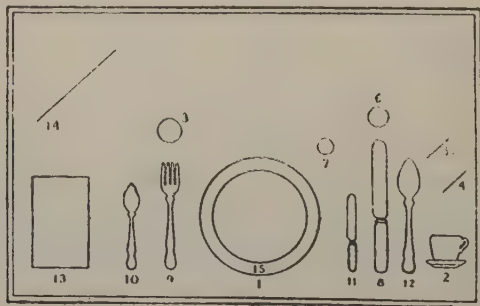
Variation in Diet.—If the patient is restricted to any special diet, vary as far as possible in the preparation and serving. When possible cover all foods and drinks left standing in the sick room. The tray and all traces of a meal should be removed immediately after eating. Half emptied cups or glasses should never be left in the sick room.

The diet of the patient should be under the supervision of the physician, and his directions followed implicitly, for much unnecessary suffering, and even death, has been the result of giving forbidden food.

To be able to carry out these instructions and offer nourishment intelligently, a thorough practical knowledge of dietetics is necessary, and should be the foundation of every nurse's training.

THE ARRANGEMENT OF THE TRAY

- | | |
|---------------------------|-------------------------------|
| 1. Plate | 9. Fork |
| 2. Cup and saucer | 10. Spoon |
| 3. Bread-and-butter plate | 11. Butter spread |
| 4. Individual cream | 12. Soup spoon |
| 5. Individual sugar | 13. Napkin |
| 6. Tumbler | 14. Flowers |
| 7. Individual salt | 15. Soup plate or cereal bowl |
| 8. Knife | |



CHAPTER IX

Diet in Special Diseases

STOMACH TROUBLE

The secret of good digestion lies largely in the proper cooking and mastication of foods which have been wisely selected and combined. Milk and acid fruits are a bad combination and should not be taken together. Regular hours for meals should also be observed, if one wishes to avoid stomach trouble. Simplicity of diet should be a point of first consideration with all persons that wish to enjoy good health. While a variety of well-cooked, nutritious food from day to day is necessary to enjoy the best of health, too great a variety at one meal is a constant temptation to over-eat, and is sure to cause trouble in the end. Three or four kinds at one meal are plenty. Persons with weak digestion should avoid eating fruits and vegetables at the same meal. We should not eat our food too hot nor too cold. Cold retards digestion, and too great heat is debilitating to the stomach.

DIABETIC DIET

Diabetes Mellitus is a condition of the body in which carbohydrates are not fully utilized and accumulate in the blood as sugar (glucose) until a certain concentration is reached, when the sugar is excreted in the urine. Diabetes is believed to be due to a deficiency in the internal secretion of the pancreas.

During the progress of the disease, the power to use carbohydrate decreases; there is also a loss in the ability to

use protein and fat. The sugar in the blood may come from proteins as well as from carbohydrate.

Persons suffering with diabetes should exclude from their dietary all sugars and starches, and are allowed only a limited amount of fat.

FOODS RECOMMENDED

Asparagus, string beans, cauliflower, egg-plant, endive, lettuce, salsify, radishes, spinach, beet greens, dandelion greens, eggs in any shape, tomatoes, nut preparations, sour fruit (without sugar), English walnuts, gluten bread, bran gems, bran mush, skim milk, yogurt, buttermilk, cottage cheese, grapefruit, limes, green onions, olive oil, ripe olives, unsweetened pineapple, unsweetened lemonade.

Thrice Cooked Vegetables—vegetable oysters, beets, parsnips, carrots, turnips. See page

HYPER-ACIDITY OF THE STOMACH

Exclude all foods from the diet that cause acid fermentation. Restrict albuminous foods, such as meat, also spinach, rhubarb, water-cress, sorrel, tea, coffee, and acid fruits, especially those containing oxalic acid. Avoid the use of fruits and vegetables at one meal.

FOODS RECOMMENDED

Milk, eggs, rice, stale bread (24 hours old), baked or boiled potatoes, hot water, tapioca, sago, bean puree, corn puree, peas puree, cornflakes, wheatflakes, raisins, prunes, honey, steamed figs, dates, white cherries, pears, spinach puree, butter, olives, olive oil, nuts.

Gruels: Rice, gluten, flake, cream gluten, gruels of any well cooked cereal.

DIET FOR NEPHRITIS

The diet for Nephritis should be kept low in protein; salt should be used sparingly and entirely dispensed with in more severe cases. Meats and meat broths and condiments should be avoided. It is especially essential to keep the dietary laxative. In case of loss of appetite and decrease in weight, sweet milk and buttermilk may be added with advantage to the dietary. Rolled oats should be avoided altogether, also hot or fresh breads, and cereal foods should not be used in excess.

FOODS RECOMMENDED

All fresh fruits, all stewed fruits, all vegetables except asparagus. Bran preparations, shredded wheat, flake cereals, rice, cream of wheat, breads twenty-four hours old, honey, butter, cream, olive oil, macaroni, nuts in moderation, fruit jellies, vegetable gelatine, sherbets, plain cakes.

DIET FOR ACHYLIA GASTRICA

Patients suffering from Achylia gastrica should avoid foods of a coarse fibrous character; also rich, heavy foods, hot breads etc. They should masticate thoroughly and eat an abundance of fresh fruits and vegetables. The amount of fat in the diet should be somewhat lower than normal amount used.

FOODS RECOMMENDED

Fresh fruits, stewed fruits, graham bread, whole wheat bread, white bread, zwieback. It is preferable to use all breads in a toasted form. Tender lettuce, tender celery, tomatoes, spinach, asparagus, squash, Irish potatoes, peas, and puree of any vegetable, meltose, malted nuts, malted milk, cream, butter, soft cooked eggs, cottage cheese, buttermilk, ripe olives, olive oil, macaroni, cereals, tapioca, ices, and sherbets, custards, nuts (well masticated).

DIET FOR GASTRIC AND DUODENAL ULCER

This diet may be modified in less severe cases by the addition of, first, purees of vegetables, mashed or baked potatoes, white bread toasted, and then mild stewed fruits such as pears, prunes, sweet cherries and malt honey mixed with cream or butter may also be used.

FOODS TO BE AVOIDED

Tea, coffee, sugar, condiments, acid fruits and vegetables, meat and meat broths, fried foods.

FOODS RECOMMENDED

Cream of wheat, cornflakes, cream gluten mush, rice flakes, steamed rice. Gruels—rice, gluten, cornflake, barley, cornmeal, rolled oats, potato. Cream toast, cream, butter, olive oil, malted milk, eggnog, raw or soft cooked eggs, unsweetened custards and tapioca. Strained soups—peas, beans, asparagus, potato, corn, rice.

DIARRHEA

Diarrhea is one of the most common disorders in the summer time. During the first day or two, little food should be eaten, preferably none at all. In eating, be careful to choose non-irritating and easily digested foods, and avoid those foods which are likely to ferment quickly. Avoid over-eating.

FOODS RECOMMENDED

Barley gruel, rice gruel, brown flour gruel, cream of wheat gruel, gluten mush, blackberries, blackberry juice, boiled milk, hard-boiled eggs, blueberries, cherries, cornstarch pudding.

ANTI-TOXIC DIET

This dietary excludes meat, eggs, milk and food containing these substances; and nuts, which contain a high

percentage of protein and fat, must be used sparingly. A general amount of fruits and fresh vegetables should be taken daily. This diet may be modified in some instances by the addition of small amounts of cream, buttermilk and egg yolk.

FOODS RECOMMENDED

All fresh fruits, all fresh vegetables, rice, zwieback, rolled oats, farina, breads—24 hours old, toasted till dry; bran preparations, plain gruels of cereals, fruit juices, cereal coffee, clear vegetable broths and soups, malted milk, malted nuts, butter, olive oil, fruit jellies, macaroni, spaghetti, nuts, vegetable gelatine, sherbets, ices.

OBESITY (Fat Reducing Diet)

Avoid liquid foods of all kinds; avoid the use of fats; restrict the diet to one, or at most, two or three articles.

The daily ration for each individual is necessarily different, but approximately should be half normal number of calories. Salt should be used sparingly, and moderate amount taken at meal time. More than a normal amount of protein should be taken, and this may be obtained from such foods as: eggs, cheese, buttermilk (without cream). Butter, cream and sweets of all kinds must be used sparingly. Cereals should be used sparingly.

FOODS RECOMMENDED

Water biscuits, beaten white of eggs, beaten whole eggs, medium boiled eggs, poached eggs, jellied eggs, floated eggs, soft boiled eggs, vegetable broth, gluten mush, gluten biscuit, gluten wafers, lettuce, radishes, onions, turnips, cabbage, potatoes once or twice a week, strawberries, oranges, lemons, grapes, sour apples, celery, asparagus, tomatoes, string beans, green peas, greens of all kinds, zwieback, grapefruit, limes.

LIQUID DIETARY

This diet is designed especially for fever cases.

The object of a fever diet is to give the body sufficient nourishment in a form that can be easily digested and will not materially add to the heat of the body. Fats should be avoided in any form, and very small quantities of protein foods.

FOODS RECOMMENDED

Gruels: Gluten, cream gluten, malted nuts, cream of wheat, cornflake, rice, oatmeal, barley, cornmeal. Vegetable broth, savora, protose broth, fruit soup, clear vegetable broths and soups, coddled eggs, beaten yolk of egg, cream egg-nog, beaten white of egg, fruit egg-nog, hot milk, skim milk, cream, yogurt, buttermilk, meltose, butter, lemonade, orangeade, fruit gelee, sherbet, fruit juices of all kinds, frozen cream, ices, ice cream, malted milk.

As the temperature of the patient decreases, more variety may be used.

SOFT OR SEMI-SOLID DIET

FOODS RECOMMENDED

Gruels, soups, cooked eggs (soft), custards, butter, olive oil, purees of cereals, baked apple, cooked cereals, soft puddings, blanc mange, gelatin preparations, cream or milk toast, cottage cheese, prune whip, sherbets.

BLOOD BUILDING FOODS

This list includes those foodstuffs which are rich in protein, but which are calculated to combat intestinal toxemia. This diet should consist only of those foods which are simple, easily digested and, therefore, easily assimilated. Foods of a rich nature or containing condiments and stimulants should be avoided.

FOODS RECOMMENDED

All fresh fruits, all stewed fruits. Strawberries contain more iron than any other fruit. Figs, dates and raisins are also very good. Spinach contains more iron than any other food. Peas, beans, asparagus, beets, corn, malted milk, meltose, eggs, cocoa, milk, cream, buttermilk, oats, graham bread, bran bread, (twenty-four hours old), butter, olive oil, ripe olives, pecans, English walnuts, frozen creams, custards, tapioca, sherbets and ices.

BRIGHT'S DISEASE

No acids or albumen, not much water, no condiments, little salt.

FOODS RECOMMENDED

Pears, prunes, raisins, bananas, oatmeal, graham bread, egg yolks, bran bread, grapenuts, corn bread, sago, tapioca, skim milk.

FOODS TO BE AVOIDED

Avoid celery, asparagus, coffee, tea, leeks, garlic, mustard, sorrel.

DIETETIC SUGGESTIONS FOR RHEUMATISM

It is now generally acknowledged that rheumatism in its different forms, are conditions originating from toxemia arising from putrefaction of food in the intestinal tract, constipation and inactive liver. The primary cause may be infected teeth or diseased tonsils.

It is plainly necessary to overcome these conditions and assist nature in every possible way by diet, regularity of habits and general good care of the body. Until recently, it was believed that a greatly restricted diet, eliminating all protein foods was essential to the successful treatment of

the malady; but we find that the great majority of rheumatic sufferers make better improvement under a more liberal and varied diet, including a portion of the protein foods.

FOODS RECOMMENDED

Cereals, milk, eggs, butter, cottage cheese, rice, macaroni, wheat, barley, squash, pumpkin, potatoes, egg-plant, sweet potatoes, cabbage, onions, carrots, oranges, lemons, vegetable soup. Beans, peas and nuts sparingly. Limes, grapefruit, pineapple, peaches, grapes, strawberries, fresh tomatoes, cornflakes, shredded wheat, rice biscuits, buttermilk, raisins. Plain puddings and pastry sparingly, and plenty of good water, celery, lettuce.

FOODS TO BE AVOIDED

Exclude all foods from the diet that give rise to uric acid in the system, all foods rich in extractives, and all stimulating foods such as alcohol, tobacco, beef, pork, tea, coffee, sweetbreads, pickles and condiments and strong spices.

GASTRITIS

FOODS RECOMMENDED

Potato puree, chopped spinach, cauliflower, baked potatoes, boiled or steamed rice, baked apples, orange juice, custard, zweiback, barley water, cornflakes, shredded wheat biscuit, milk with lime water, oatmeal water.

FOODS TO BE AVOIDED

Avoid spices and condiments, alcoholic drinks, tea, coffee, mustard, and cane sugar. Cooked fat of meats, sauces, and pastries should be avoided.

HYPO-ACIDITY OF THE STOMACH

Persons suffering from hypochlorhydria should masticate all foods thoroughly and avoid the use of large amounts of liquid at meal time, as this tends to dilute the gastric juice and further inhibit digestion. Chilling the food is not advisable in many cases. Take one glass of cold water before meal time.

FOODS RECOMMENDED

All fresh fruits, fruits of all kinds, especially citrus fruits, all fresh vegetables and all cooked vegetables, fruit jellies and marmalades, rolled oats, bran preparations, whole wheat bread, graham bread, white bread, (preferably toasted), soft cooked eggs, egg yolks and nuts in moderation, butter, and cream in small amounts, cottage cheese and butter milk, vegetable broths and soups, gelatins and sherbets.

FOODS TO BE AVOIDED

Fried foods, fat in excess, fresh breads, and condiments.

ULCER OF THE STOMACH

Ulcer of the stomach requires rest and restriction of all food by mouth. When pain and vomiting have ceased, a thin water oatmeal gruel may be taken, beginning with two teaspoons every two hours, or milk diluted with lime water; gradually increase as the patient improves, such as the following: egg albumen, rice, zwieback (soft), buttermilk, egg-nog, yogurt, malted milk.

FOODS TO BE AVOIDED

Avoid acid fruits and coarse vegetables and all spices.

ANEMIA

Anemic patients require abundant nitrogenous food, and well seasoned. In all cases of anemia, the blood is in an impoverished condition and reacts unfavorably upon the character of the digestive secretion, consequently they are unable to digest the food with the necessary vigor.

FOODS RECOMMENDED

If milk is agreeable to the patient, it should be made the principal food. As the patient improves, give more solid foods, such as gruels; and eggs may be partaken of.

FOODS TO BE AVOIDED

Avoid acid fruits and starchy foods.

LEANNESS—FATTENING DIET

A fattening diet is called for under the following conditions: To store up fat during convalescence after acute diseases; in chronic wasting diseases; and in some nervous diseases. There are many persons in apparent health who need to store up fat in order that they may be better fortified against disease. The diet should consist mostly of carbohydrates and fats.

FOODS RECOMMENDED

Bromose, cream, milk, buttermilk, yogurt, cottage cheese, cream toast, cream rice soup, cream corn soup, rolled oats, rice, corn, macaroni, melons, bananas, figs, dates, butter, olive oil, ripe olives, ripe sweet apples, eggs, butter nuts, almonds, English walnuts, corn bread, whole wheat bread, spaghetti, pinenuts, cocoa, potatoes, sweet potatoes, custards and sherbets, raisins, malted milk, malted nuts, meltose. Bread should be twenty-four hours old.

DILATATION OF THE STOMACH

Dilatation of the stomach is one of the most serious of gastric disorders. It may be the result of a run-down condition of the system. Liquid foods should be used very sparingly, and very little fats used.

FOODS RECOMMENDED

Cornflakes, riceflakes, wheatflakes, zwieback, sweet fruits (prunes, raisins, dates, figs), poached eggs, peas puree, boiled rice, green vegetables (if finely minced).

FOODS TO BE AVOIDED

Meat and cane sugar should be avoided. and all strong spices and condiments.

DIET FOR CONSTIPATION—NATURAL FOOD OF MAN

In order to understand what are the best foods, we must study God's original plan for man's diet. He who understands his needs, appointed Adam his food. Gen. 1: 29. And God said, behold I have given you every herb yielding seed, to you it shall be for meat. We learn in Gen. 3: 17 after the fall, when the ground was cursed for man's sake, the herb of the field was added to his diet.

The Lord gave to man the most natural diet in order that he might be happy and enjoy the very best of health, and the nearer we can come to this standard the more perfect health we may enjoy.

In combating such diseases as constipation; a sufficient amount of bulky food should be eaten daily to serve as a normal stimulus to the intestines.

The simplest remedy is the increase of water, especially cold water on rising in the morning and on retiring in the

evening. Coarse foods with a large amount of bulk or ballast; such vegetables as carrots, cabbage, cauliflower and spinach, furnish an equal quantity of material in the intestines and should be relied on chiefly in the diet to relieve constipation.

Each day, ten to twelve heaping tablespoonfuls of each of the various vegetables should be eaten. Besides these, other vegetables and fruits should be eaten freely. Bran is of special value in the diet to increase the bulk of the intestinal contents. When eaten, it increases in volume four-fold by the absorption of water. When normal regularity has returned, bran may be eaten only as needed.

All green vegetables are best when eaten raw, for constipation.

A fresh fruit diet is of great importance, because all the citrus fruits are more or less laxative. Japanese seaweed, or agar-agar, obtainable at any drug store, is also valuable in cases of constipation, owing to the stimulus to peristalsis which its bulk affords.

LIST OF LAXATIVE FOODS TO BE RECOMMENDED

Prunes, dates, figs, oranges, apples, bananas, pears, peaches, grapes, grapefruit, watermelon, lemons, raisins, bran, bran muffins, bran bread, whole wheat bread, spinach, celery, lettuce, onions, okra, buttermilk, yogurt, agar-agar, turnips, parsnips, carrots, squash, olives, olive oil, walnuts, butter nuts, cauliflower, pumpkin, cream, butter.

LIST OF CONSTIPATING FOODS TO BE AVOIDED

White bread, rice, barley, browned flour gruel, browned flour gravy, cherries, blackberries, blackberry juice, blueberries, boiled milk, hard boiled eggs.

FOODS TO BE AVOIDED

Exclude from the diet all stimulating and irritating foods, such as: tea, coffee, meat, beef tea, beef extract, alcohol, tobacco, condiments and strong spices.

DIET FOR HIGH BLOOD-PRESSURE

The diet should be strictly antitoxic and laxative. Adopt a simple diet of rice, cereals, milk, vegetables and fruit.

Use sparingly of high protein foods, such as peas, beans and lentils. Avoid the use of tea, coffee, condiments and alcoholic beverages, also tobacco and cigarettes.

Blood-pressure is also raised by the absorption from the alimentary canal of poisons due to constipation.

CHAPTER X

The Principles of the Preparation of Food

Acids—Coagulate albumen.

Precipitate casein.

Soften cellulose.

Soften gelatin jellies.

Soften connective tissue.

Acid, water, and heat change starch to sugar.

Acid, water and heat invert cane sugar.

Air—Can be beaten into gelatin.

Can be beaten into cream.

Air or gas can be held by gluten.

Eggs—Eggs will thicken milk in cooking.

Hard cooked egg yolk is soluble in water.

The egg yolk coagulates at a lower temperature than the white.

Heat—Coagulates albumen.

Caramelizes sugar.

Develops the flavor of the extractives of food in proportion to the degree of temperature employed.

Destroys the active principle in pineapple juice.

Dry heat converts starch into dextrin.

Heat and water invert cane sugar.

Heat in excess will change the characteristic properties of gelatin.

Heat in excess causes a chemical change in citric acid resulting in a disagreeable flavor.

Heat when dry, dehydrates foods, causing loss in weight.

Moist heat bursts starch cells.

Heat in excess will change the characteristic properties of pectin.

Prolonged heat and water converts starch into sugar.

Quick heat or high temperature develops a more pronounced flavor than the same temperature gradually attained.

Softens gelatin.

Sterilizes food by destroying germs.

Volatilizes lemon juice.

Meringe—Bake in a slow oven and it will thicken and be nicer.

Pineapple—Bromelin, the ferment in fresh pineapple juice, dissolves proteins.

Bromelin is the active principle in pineapple juice.

Fresh pineapple juice is valuable in sore throat.

Sugar destroys the active principle in fresh pineapple.

The juice of fresh pineapple contains a remarkable active digestive principle similar to pepsin and pancreatin and so powerful in its action upon proteins that it will digest as much as one thousand times its weight within a few hours. It is especially valuable in diphtheria and diabetes.

Potatoes—In baking potatoes cut off the ends, so that the steam will have an opportunity to escape. They will come out more mealy and dry.

Raisins—Allow raisins to stand in boiling water for a few minutes if you wish to remove the stones.

Soda—Baking soda neutralizes acids.

Baking soda increases the solvent action of water.

Baking soda is decomposed by heat, with evolution of carbon dioxide.

Baking soda cooked with foods destroys the vitamin.

Salt—Salt toughens cellulose.

Salt is an antiseptic.

Salt yellows vegetable connective tissue.

Salt in solution raises the boiling point of water.

Salt preserves the color of green vegetables.

Spice—Is an antiseptic.

Starch—A starchy thickening, added to milk, will prevent its being curdled by acid.

A starchy thickening will keep a custard from wheying.

Salt added to cornstarch prevents the starchy taste.

Sugar—A small amount of sugar added to field peas will improve them and make them almost like fresh garden peas.

Vegetables—Cooking vegetables in an open kettle will preserve the brightness of their color.

Water—Boiling water dissolves three times its volume of sugar.

Boiling water coagulates albumin.

Boiling water retains the extractives of foods.

Cold water is absorbed by gelatin.

Cold water dissolves albumin.

Cold water dissolves one-third its volume of sugar.

Water dissolves one-third its volume of salt.

Water dissolves the sapid extractives of foods.

FOOD ELEMENTS, THEIR COMBINATION AND DIGESTION

1. What are the principal foodstuffs?

Proteins, fats, carbohydrates, salts and water.

2. What do the proteins include?

The gluten of grains, casein or "curd" of milk, the albumen of meat (lean meat) and eggs (the white), and vegetable albumen, and caseins in nuts, peas, beans and other vegetable products.

3. What do these furnish to the system?

They furnish material for building tissue, and repairing tissue waste.

4. What do the carbohydrates include?

Starches and sugars.

5. What do these furnish to the system?

Heat and energy. The surplus is stored up as fat. It is starch granules and fat globules that the working man needs. About seventy-five per cent. of our food should be of this class, and the most part of it starch.

6. Where are these elements found?

These are abundantly found in all vegetables, cereals, in most nuts, and in all fruits.

7. Where are the organic salts found?

They are largely found in fruits and green vegetables, but are also present in all natural foods. When foods are burned the salts remain as ash.

8. What is cellulose?

It is the framework or woody fiber of fruits and of all vegetable growth.

9. Where is cellulose found?

It is found in vegetable foods, including fruits and cereals. Being indigestible, it cannot furnish any nourishment to the body, but is useful for its bulk. Cellulose surrounds the digestible part of each starch granule, something like the shell of an egg.

10. What does cooking do to it? Cooking breaks up this indigestible, woody envelope.

11. Where is starch digested? Cooked starch is largely digested in the mouth and stomach; raw starch principally in the intestines. Saliva acts slowly, if at all, upon raw starch; therefore, starchy foods should be boiled or baked. The starch digestion begun by the saliva is continued for a time in the stomach. When starch is not properly masticated, it is imperfectly digested in the stomach.

12. Where are fats digested?

Fats are digested in the intestines, being acted upon by the pancreatic juice, aided by the bile. Common forms of

fat are cream, 20 per cent fat, butter, 70 per cent fat, olive oil and nuts. English walnuts, filberts, pecans and pine-nuts have a high percentage of fat.

13. Where are proteins digested?

Partly in the stomach, by the gastric juice; partly in the intestines, by the pancreatic juice.

14. What effect does cooking have on proteins?

Cooking does not increase the digestibility of proteins, rather the opposite, but it breaks down the indigestible material surrounding the proteins.

15. Is fat essential as an article of diet?

Fat most certainly is essential. Its use facilitates intestinal digestion, encourages bowel action, and aids nutrition in a remarkable manner. It is a common mistake of persons adopting a vegetarian diet to use too little fat. The vitality of the tissues fail under such an imperfect diet.

16. How is it best employed?

Fats are best employed cold, as butter on bread at the table. They should not be cooked in with other foods, as the heated fat forms a coat around other foods and prevents the action of the digestive juices until they reach the intestines. A still worse form of dietetic error is the frying of foods; for not only is the action of the digestive juice prevented, but fatty acids are formed in the process, which serve as irritants to the stomach. The fats of nuts, olives, grains and cream mingle freely with the saliva without interfering with its function.

17. What is the effect of sugar?

It is believed that the principal source of body energy is a form of sugar, and that the starches and sugars are eventually turned to this form of sugar in the body. Sugar is widely distributed in nature, and is an important source of nutrition. As found in nature, it is usually in a diluted form. In the concentrated forms of commerce, it is apt to be used in excess and to prove unwholesome.

18. What is the real object of intelligent cooking?

To render foods more digestible. Cellulose and other indigestible materials are broken down and to a certain extent, foods properly cooked may be said to have undergone a preliminary digestion. The skillful development of flavors is another aid to digestion.

19. Do cooks usually attain the best results in the preparation of foods?

They do not. Often the palate is the only thing thought of; and in the effort to please a perverted taste, foods are rendered less digestible, or less wholesome in other ways.

20. Must food be relished in order to nourish?

In order to have good digestion, it is necessary to relish and enjoy what is eaten. A good appetite and a hearty relish for food act as powerful stimulants to digestion.

21. Why were spices introduced?

When man earned his food by labor, ate moderately, and not too often, he needed no strong spices to stimulate his appetite, and simple foods appealed to him. When luxury, confinement and inactivity came in, with greater opportunity to tickle the palate, delicacies and a variety of spices were added to tempt the appetite.

22. What is their effect?

Indigestion and disease followed as a natural result. While it is unwise to use highly seasoned foods, it is by no means wise to go to the other extreme, and attempt to live on foods that are unpalatable. Such a course will invariably result in indigestion.

23. What is the effect of over-eating?

First, indigestion, then if the habit is continued, gradual changes in the stomach walls, leading finally to permanent dilation; and auto-intoxication from the absorption of poisons.

24. What are considered good combinations?

Fruits, grains, nuts and olives form an excellent com-

bination. Milk agrees better with grains and vegetables than with meat and fruits. Vegetables, nuts, grains and legumes go well together. Emulsified fats agree with grains and vegetables.

25. Should we eat a large variety of food at one meal?

At each meal take only two or three kinds of simple food, and eat no more than is required to satisfy hunger. At all meals there should be sufficient protein to furnish the proper amount of tissue-building material. Authorities differ as to the quantity necessary; but evidence is accumulating that a ration having a considerable amount of meat and eggs contains a larger proportion of protein than the body can handle to advantage. A meal consisting principally of potato would be deficient in protein. The cereals contain protein in about the right proportion, the nuts and legumes have it slightly in excess.

26. How should we make our variety?

The meals should be varied. The same dishes prepared in the same way should not appear on the table meal after meal, or day after day. The meals are eaten with a greater relish and the system is better nourished, when the food is varied.

CHAPTER XI

Soups

In speaking of soup, a preparation made from meat and bones is usually thought of; but we will take into consideration some soups which are not made from meat, and also show why such soups are superior to meat soups. Broths and soups prepared from grains, legumes and vegetables, possess a much higher nutritive value, and are free from the objectionable features of meat broths, but there are other reasons than their greater nutritive value why soups made from vegetable foods are superior to meat stock soups.

Every time an animal contracts a muscle, waste products are produced in its body. These are in the flesh after the animal is killed; and these substances would have been carried off by the excretory organs if the animal had lived long enough. They are dissolved in the water in making meat soups.

The exact opposite is true of the soups made from vegetables, for they are rich in mineral salts, which are the substances that keep the blood alkaline. We can plainly see that when the blood becomes acid by the accumulation of waste products in the body, the power to fight disease germs is lessened. When we eat such soups, we are taking into our bodies the very substances which our bodies are constantly trying to get rid of.

VARIETY OF SOUPS

A large variety of soups may be made by using milk or cream; such as cream of corn, cream of pea, beans or rice,

and a number of tomato soups, and also fruit soups. Vegetables that are too tough and old to cook in any other way, may be used to advantage in soups.

CLASSES OF SOUPS

Soups may be divided into two classes: 1. Broths and bouillons or thin soups, to which may be added cooked grains or vegetables cut into various shapes for garnishes and to give variety in flavor.

While these thin soups may lack in nourishment, they are valuable for the stimulating effect they have on the gastric juice. They also are rich in mineral salts which are the substances that keep the blood alkaline.

2. Soups that are thickened in various ways with flour, cornstarch or rice flour; they usually have as their basis cooked vegetables, grains or legumes, put through a strainer or cut in various shapes or sizes and thinned with the liquid in which they are cooked, or cream.

THICKENING FOR SOUPS

Soups are usually thickened with flour, rice flour or cornstarch, one tablespoonful for a quart of soup—if flour is used, add more. When butter and flour are used, put the butter in a sauce pan, and when melted, stir in the flour quickly until smooth, being careful not to brown or scorch the butter; then add gradually about a cupful of hot soup or water, according to directions. Let it boil and thicken as you add the liquid. It should be thin enough to pour.

When a brown thickening is desired, add an equal amount of brown and white flour. Flour that has been browned while dry, browns but does not thicken much. Thickened soups should be of the consistency of good cream.

Vegetable butter or cooking oil may be used instead of dairy butter.

¹ CROUTONS FOR SOUP

Cut slices of bread one-third of an inch thick; cut in cubes; toast thoroughly in the oven until a golden brown.

² HOW TO CLEAR SOUP STOCK

Remove the fat, and allow the shell of two eggs for every quart of stock. If you wish to flavor the stock more highly, add a little celery salt and a thin shaving from the rind of a lemon. Add also the lemon juice and more salt if needed.

Mix all together with the cold stock, and heat it well. If the stock is hot when the egg is added, the egg will harden before it has done its work.

Let it set over the fire, and stir it all the time until it is hot, to keep the egg from setting. A thick scum will form, and as it breaks, the liquid will be clear and sparkling like wine, and darker than before. Draw it back on the stove, and add half a cup of cold water. Let it stand ten minutes, and strain through a fine napkin. Put a fine wire strainer on the napkin and pour it all through. The strainer will catch the scum and shell. Let it take its own time to drain.

Reheat to boiling, and serve as clear soup or consomme.

³ NUT FRENCH SOUP

½ cup nut soup stock or	1 pint water
2 tbsp. nut butter	1 teaspoonful thyme
1 qt. strained tomatoes	1 small onion
1 tbsp. browned flour	1 bay leaf
¼ tsp. sage	

Emulsify the soup stock or nut butter in the water. Heat to boiling, and add brown flour, rubbed smooth in a

little cold water; then add seasoning. Cook a few minutes, and salt to taste.

⁴ WASHINGTON SOUP

$\frac{1}{3}$ cup nut soup stock	1 tbsp. brown flour
1 qt. strained tomatoes	$\frac{1}{2}$ tsp. celery salt
$\frac{1}{4}$ tsp. thyme	Salt to taste

Make the same as nut French soup. Two tablespoonfuls of nut butter may be used instead of the nut soup stock.

⁵ VEGETABLE SOUP

$\frac{1}{4}$ cup carrots	1 onion
1 cup strained tomatoes	$\frac{1}{2}$ cup celery
1 pint potatoes	2 quarts water
$\frac{1}{4}$ cup turnips	$\frac{1}{2}$ tbsp. flour
$\frac{1}{4}$ cup cabbage	Pinch of thyme
2 tbsp. vegetable butter or cooking oil	1 bay leaf

Dice the vegetables fine, then put on to cook in the water, and cook slowly for three hours, adding more water as it boils away. Then add the tomato juice. Melt the butter and stir in the flour, and add the soup and seasoning. Boil a few minutes longer.

⁶ VEGETABLE STOCK

$\frac{1}{2}$ cup carrots	1 cup tomato juice
1 cup cabbage	2 onions
1 cup cauliflower	$\frac{1}{2}$ cup turnips
$\frac{1}{2}$ cup celery	1 bay leaf

Put all together in cold water, enough to cover; cook three hours, then strain through a colander. Heat to boiling, and salt to taste.

7 TOMATO BISQUE (SOUP)

$\frac{1}{4}$ cup nut butter	3 cups strained tomatoes
5 cups water	1 tbsp. white flour
$1\frac{1}{2}$ tbsp. veg. butter or cooking oil	$\frac{1}{2}$ tbsp. brown flour
	Salt to taste

Emulsify the nut butter in half the water; then melt the butter and stir in the flour; add to it one cup of hot water, and stir until smooth. Heat the tomatoes and water to boiling; then put all together.

8 TOMATO LENTIL SOUP

1 cup lentils	1 cup water
1 small onion	1 tbsp. veg. or dairy butter
Salt to taste	1 tbsp. brown flour
1 bay leaf	1 cup strained tomatoes

Soak the lentils over night. Then cook and put them through a colander. Add water to make it the right consistency, a little thick; then put in the tomatoes. Heat to boiling, thicken with the flour and salt to taste.

9 NUT BARLEY SOUP

1 cup strained tomatoes	2 stalks of celery
$\frac{1}{2}$ cup nut soup stock or	$\frac{2}{3}$ cup barley
$\frac{1}{4}$ cup nut butter	2 quarts water

Emulsify the soup stock in part of the water, and cook the barley in it. Cook the celery in the rest of the water fifteen minutes; then remove celery, and add flavored water to the barley.

Heat to boiling, salt to taste, and serve.

10 SAVORY POTATO SOUP

1¼ quarts potatoes	1 grated onion
2½ quarts milk	3 tbsp. butter
⅓ tsp. celery salt	2 tbsp. flour

Cook the potatoes and put through a colander; heat to boiling and add to the hot milk; then melt the butter and stir in the flour; add one pint of hot water, and stir until smooth; then put in with the soup. Heat to boiling, season to taste, and serve.

11 CREAM POTATO SOUP

1½ quarts milk	2 tbsp. flour
1¼ quarts potatoes	Salt to taste
3 tbsp. butter	

Cook the potatoes and put through a colander; add the hot milk; then melt the butter and stir in the flour; add one cup of hot water, and stir until smooth. Heat to boiling, salt to taste, and serve at once.

12 CREAM DICED POTATO SOUP

2 quarts milk	1 quart diced potatoes
3 tbsp. butter	2½ tbsp. flour

Cook the potatoes and add to the hot milk; then melt the butter and stir in the flour; add a cup of hot water and stir until smooth. Cook a few minutes, and add to the soup.

Heat to boiling, salt to taste, and serve at once.

13 PEA AND TOMATO SOUP

1 cup peas, pulp	½ tbsp. brown flour
1 pint strained tomatoes	1½ tbsp. veg. or dairy butter
1 tbsp. white flour	1½ pint water

Mix all together; then melt the butter and stir in the flour. Add one pint of the hot water and stir until smooth. Add to the soup, season with bay leaf, and salt to taste.

14 TOMATO RICE SOUP

2 cups strained tomatoes	$\frac{1}{2}$ cup hot water
2 tbsp. rice	$1\frac{1}{2}$ tbsp. vegetable but-
1 tbsp. white flour	ter or cooking oil

Cook rice in water until tender, and add to the hot tomatoes. Melt the butter and stir in the flour and hot water until smooth; then add to the soup. Heat to boiling, season with bay leaves and salt to taste.

15 FRUIT SOUP

2 cups strawberry juice	$\frac{1}{4}$ tbsp. sago
$\frac{1}{2}$ cup pineapple juice	$\frac{1}{4}$ tbsp. sugar
1 cup water	$\frac{1}{3}$ tbsp. lemon juice

Mix all together, put in sago, and cook in a double boiler for thirty minutes. Serve with diced pineapple or banana. Peach, apple, cherry, currant, or cranberry juice may be used instead of strawberry and pineapple.

Some of the fruit may be cooked in the soup, such as prunes, raisins, currants, etc.

Very nice served cold with ice in warm weather. A great variety of fruit soups may be made for a change.

16 CREAM OF RICE SOUP

2 cups milk	1 tbsp. butter
1 cup water	$\frac{1}{2}$ tbsp. flour
2 tbsp. rice	Salt to taste

Cook the rice in water until tender; add milk which has been heated; melt the butter and stir in the flour and one cup of hot water until smooth. Add to the soup, salt to taste, and serve at once.

17 POTATO CHOWDER (SOUP)

- | | |
|-------------------------|-----------------------------------|
| 2 cups potatoes | $\frac{1}{4}$ tsp. minced parsley |
| 1 small onion | 3 cups water |
| 1 cup shredded potatoes | 2 cups cream |

Cook potatoes; put through colander; add hot water and cream; then put in the parsley and shredded potatoes. Cook fifteen minutes, salt to taste, and serve.

18 POTATO BISQUE SOUP

- | | |
|--------------------------------------|----------------------------|
| 1 $\frac{1}{4}$ cups mashed potatoes | 1 quart hot water |
| 1 small onion | 2 tbsp. vegetable or dairy |
| 1 cup hot milk | butter |
| 1 tbsp. chopped parsley | 2 tbsp. flour |
| 1 tbsp. chopped celery | |

Cook onion and celery in the water; pour through a colander into the mashed potatoes; set over the fire; melt the butter; stir in the flour and hot milk until smooth.

Add parsley and salt to taste just before serving.

19 SPLIT PEA SOUP

- | | |
|------------------------------|--------------------------------|
| $\frac{1}{2}$ cup split peas | $\frac{1}{4}$ tsp. celery salt |
| 1 $\frac{1}{2}$ cup milk | 1 $\frac{1}{2}$ tbsp. flour |
| 2 tbsp. butter | |

Cook peas in boiling water until tender, put through a colander, and add to the hot milk. Melt the butter and brown slightly; stir in the flour and a cup of hot water until smooth.

Cook a few minutes, and add to the soup. Heat to boiling, salt to taste, and serve at once.

20 VEGETABLE BOUILLON

1 cup potatoes	$\frac{1}{4}$ cup peas
$1\frac{1}{2}$ cups tomato juice	1 carrot
$\frac{1}{3}$ cup beans	1 turnip
2 onions	Bay leaf and thyme
Sprig of parsley	

Cook vegetables for three hours; add peas, beans, and tomato juice and seasoning. Cook two hours longer; strain through a colander, but do not mash it. Season and serve with croutons.

21 TOMATO BOUILLON

1 pint strained tomatoes	1 tbsp. vegetable or dairy
1 chopped onion	butter
$\frac{1}{2}$ tbsp. brown flour	$\frac{2}{3}$ tbsp. white flour
1 bay leaf	Small pinch of thyme
1 pint hot water	

Put the chopped onion in a buttered pan over a slow fire, and cook until well browned but not scorched; then add a little water, and cook until tender. Heat the tomatoes and add to the onions. Melt the butter and stir in the flour and hot water until smooth.

Cook a few minutes and add to the other mixture. Strain through a fine strainer, salt to taste, and serve hot.

22 NAVY BEAN SOUP

1 pint water	$1\frac{1}{2}$ tbsp. vegetable or dairy
1 cup cream or milk	butter
	1 tbsp. flour

Cook the beans until tender; add the water and milk.

Melt the butter and brown very slightly; stir in the flour and one-half cup of hot water until smooth. Cook a few minutes and add to the soup; salt to taste and serve hot.

²³ LIMA BEAN SOUP

3 cups milk	1 tbsp. vegetable or dairy
1 cup lima beans	butter
$\frac{3}{4}$ tbsp. flour	Salt to taste

Make the same as cream of bean soup (No. 32).

²⁴ CREAM OF BARLEY SOUP

2 tbsp. barley	1 quart milk
1 tbsp. butter	1 tbsp. flour
$\frac{1}{2}$ tsp. celery salt	Salt to taste

Cook barley and put through a colander, or leave whole if preferred; then add milk. Melt the butter and stir in the flour and a cup of hot water; stir until smooth, then add to the soup.

Heat to boiling and season just before serving.

²⁵ CREAM OF ASPARAGUS SOUP

1 cup asparagus	1 tsp. celery salt
1 quart milk	2 tbsp. butter
$1\frac{1}{2}$ tbsp. flour	Salt to taste

Cook asparagus, put through a colander, and add to the hot milk.

Melt the butter and stir in the flour and one cup of hot water until smooth. Cook a few minutes and add to the soup. Cut off the tips of the asparagus half an inch, cook separately, and add to the soup. Salt just before serving.

²⁶ CREAM OF CORN SOUP

$\frac{1}{2}$ cup corn	$1\frac{1}{2}$ tbsp. vegetable or dairy
1 pint milk	butter
1 tbsp. flour	

Cook the corn (if not cooked) and put through a colander; then add to the hot milk. Have both milk and corn hot, or it may curdle.

Melt the butter and stir in the flour; add a cup of hot water and stir until smooth; cook a few minutes, then add to the soup.

Salt to taste just before serving.

27 CREAM OF CAULIFLOWER SOUP

1 quart milk	$\frac{1}{2}$ cup cauliflower
2 tbsp. vegetable or dairy butter	2 tbsp. flour

Cook the cauliflower until tender, put through a colander, then add to the milk; now melt the butter and stir in the flour; add slowly one-half cup of hot water, stirring until smooth. Add to the soup, and salt to taste just before serving.

Take several nice heads of cauliflower, dice fine, cook fifteen minutes, and add to the soup just before serving.

28 CREAM OF CELERY SOUP

1 quart milk	$\frac{1}{2}$ cup celery
2 tbsp. flour	$2\frac{1}{2}$ tbsp. butter
$\frac{1}{4}$ cup chopped celery	Salt to taste

Cook celery in water, enough to cover; when done, put through a colander; add to the milk, which should be boiling hot.

Melt the butter and stir in the flour, stirring until smooth, and add slowly one-half cup of hot water; put into the soup; then add the chopped celery, which has been cooked separately in just enough water to cover.

Salt to taste and serve at once.

29 VEGETARIAN CONSOMME

1¼ cups strained tomatoes	2 turnips
6 cups water	2 carrots
1 cup chopped celery	1 large onion
A sprig of parsley	1 bay leaf

Pare the vegetables and cut in small pieces; then put all together and cook for two hours. Strain through a cheesecloth or fine strainer. Salt to taste and serve with croutons.

30 TOMATO VERMICELLI SOUP

1 pint strained tomatoes	2 tbsp. vegetable or
1 pint water	dairy butter
1½ tbsp. flour	⅓ cup vermicelli

Heat the tomatoes and water; melt the butter and stir in the flour until smooth; add slowly enough of the tomato to make it the consistency of gravy, stirring well to prevent lumping; then put all together.

Add vermicelli, which has been cooked separately. Salt to taste and serve.

31 CREAM OF TOMATO SOUP

1 quart milk	2½ tbsp. vegetable or
1¼ cup strained tomatoes	dairy butter
2 tbsp. flour	
⅔ cup water	

Heat the milk and tomato to boiling; then melt the butter and stir in the flour; slowly add the water, stirring well until smooth; then add to the milk and tomato.

Just before serving, add the tomato to the milk slowly, and beat well to prevent curdling. The tomato and milk should be the same temperature, a little below boiling.

Salt to taste and serve at once.

32 CREAM OF BEAN SOUP

- | | |
|-------------------|-----------------------|
| 1 pint navy beans | 1¼ tbsp. vegetable or |
| 1 quart milk | dairy butter. |
| 1 tbsp. flour | |

Cook the beans, put through a colander, and add to the hot milk and cream. Melt the butter and stir in the flour until smooth; then stir in one cup of the milk or water, and add to the soup.

Salt to taste and serve.

33 KIDNEY BEAN SOUP

- | | |
|----------------------|---------------|
| 1½ cups kidney beans | 1 quart water |
| 2 tbsp. butter | 2 tbsp. flour |

Cook the beans, put through a colander, and add to the water. Melt the butter and stir in the flour and a cup of hot water until smooth; cook a few minutes and add to the soup.

Salt to taste and serve hot.

34 FRENCH TOMATO SOUP

- | | |
|-------------------------|--------------------------|
| 1 qt. strained tomatoes | 1½ tbsp. vegetable or |
| 1 tbsp. flour | dairy butter |
| 1 small onion | 1 tsp. thyme |
| 1 bay leaf | Pinch of sage or parsley |
| 1 pint water | |

Heat the water and tomato; then melt the butter, stir in the flour, add it to the water and tomato, and stir until smooth.

Chop the onion and tie it in a cloth with the other seasoning; then boil thirty minutes, salt to taste, and serve hot.

³⁵ POTATO RIVEL SOUP

4 quarts water	1 qt. potatoes, diced fine
1 egg	1 cup flour

Cook the potatoes in part of the water until done; then add the rest of the water and heat to boiling. Beat up the egg; add the flour, rubbing smooth with the hands, like you would for pie crust; then stir this into the potatoes, and cook fifteen minutes.

Season with butter, and salt to taste.

³⁶ NOODLE SOUP

1 quart bean broth	1 quart potato broth
Pinch of salt	1 egg

Flour enough to make a very stiff dough

Beat the egg until light; add salt, work in the flour, and make a smooth dough. Roll out thin as a sheet of brown paper; let dry a few minutes, until it does not stick together.

Fold one-half over the other and roll up like a jelly roll; then cut into very thin slices; separate them well; spread out to dry; then drop into the boiling broth, and cook twenty minutes; then season with butter and salt to taste and serve hot.

³⁷ CREAM OF PARSLEY SOUP

½ cup parsley	2 cups milk
1 cup potato water	2 tbsp. butter
1½ tbsp. flour	Salt to taste

Heat milk and potato water; melt the butter and stir in the flour and a cup of hot water. Cook a few minutes and add to the soup.

Chop the parsley fine and put in the soup. Salt to taste and serve at once.

38 MOCK CHICKEN BROTH

$\frac{1}{4}$ cup chopped celery	1 small onion
1 cup protose	1 raw egg
1 cup nuttolene	$\frac{1}{2}$ cup lima beans
$\frac{1}{2}$ cup green peas	2 hard-boiled eggs

Cook beans and peas until nearly done; then add protose and nuttolene (cut in small pieces), and cook one hour longer.

Strain; put the eggs through a colander, and stir into the soup.

Beat the raw egg and mix with the soup; strain again, salt to taste, and serve hot.

39 NUT CHOWDER (SOUP)

1 tbsp. nut butter	1 quart water
1 cup strained tomatoes	$\frac{1}{2}$ cup shredded nuttolene
$\frac{1}{3}$ cup cooked carrots, grated	Salt to taste
1 tsp. grated onion	2 hard-boiled eggs shredded

Emulsify the nut butter in the water; cook ten minutes; also heat the tomatoes to boiling separately, then put all together and serve hot.

40 CREAM OF PARSNIP SOUP

2 cups parsnips	$1\frac{1}{2}$ quarts milk
$\frac{1}{2}$ cup potatoes	A little celery salt
2 tbsp. butter or oil	$1\frac{1}{2}$ tbsp. flour

Cook the potatoes and parsnips until tender; then put through a colander; heat the milk to boiling and add. Now heat the butter and stir in the flour until smooth; stir in a cup of hot water, cook a few minutes, and add to the soup.

Salt to taste and serve at once.

41 BROWN POTATO SOUP

1 pt. potatoes, sliced thin	$\frac{1}{2}$ cup butter
1 cup rich milk	2 large onions
$1\frac{1}{2}$ tbsp. flour	$\frac{1}{2}$ tsp. celery salt

Chop the onions; put in a buttered pan over a slow fire until well browned, but not scorched; then add water and cook until tender, and strain. Meanwhile cook the potatoes until tender; heat the milk and put in with the potatoes; then melt the butter and stir in the flour and hot water enough to make a thick gravy, and add to the soup.

Salt to taste and serve hot.

42 CREAM OF ONION SOUP

2 cups onions	1 quart milk
$2\frac{1}{2}$ tbsp. butter	2 tbsp. flour
Salt and celery salt to taste	

Peel the onions; soak in cold water for one hour; drain and put on fresh water; parboil and cook until tender. Put through a colander and add to the hot milk; melt the butter and stir in the flour and a cup of hot water; cook a few minutes and add to the soup.

Season to taste just before serving.

43 CREAM OF LETTUCE SOUP

1 cup lettuce	2 cups milk
1 cup potato water	2 tbsp. butter
$1\frac{1}{2}$ tbsp. flour	Salt to taste

Heat milk and potato water; melt the butter and stir in the flour and a cup of hot water. Cook a few minutes and add to the soup.

Chop the lettuce quite fine and put into the soup. Salt to taste and serve at once.

44 SCOTCH BROTH

3 cups water	1 small onion
$\frac{1}{3}$ cup Scotch peas	$1\frac{1}{2}$ tbsp. Scotch barley
2 carrots	2 tbsp. butter
1 turnip	1 bay leaf

Cook the peas in the water until nearly done, then add carrots, turnip, and onion, all cut up in small pieces; cook until tender. Add barley, which has been cooked separately.

Salt to taste and serve hot.

45 POTATO RICE SOUP

$\frac{1}{2}$ cup rice	2 potatoes
$\frac{1}{2}$ cup strained tomatoes	$\frac{1}{2}$ onion
$\frac{1}{2}$ tbsp. cooking oil or butter	

Cook vegetables until done, put through a colander or cut fine, and leave in the soup; then add the rice, which has been cooked separately, and add more water to make it the right consistency.

Heat to boiling and salt to taste.

46 VEGETABLE OYSTER SOUP

1 pint vegetable oysters	2 tbsp. butter or oil
1 quart milk	$1\frac{1}{2}$ tbsp. flour

Cook the vegetable oysters in boiling water until tender, after washing and scraping them; when done, drain and put through a colander; then add to the hot milk.

Melt the butter and stir in the flour and a cup of hot water; let boil a few minutes, then add to the soup. Season with salt and celery salt to taste just before serving.

Dice some of the vegetable oysters into small pieces, cook separately, and add to the soup just before serving.

47 MOCK OYSTER SOUP

1 quart water	2 tsp. olive oil
½ cup strained tomatoes	1 tsp. flour
½ cup milk	½ tsp. celery salt

Mix water and tomato and allow it to come to a boil, then add the hot milk. Heat the oil, stir in the flour, and add a cup of the soup. Let boil a few minutes, then put together, and salt to taste just before serving.

Serve with croutons or crackers.

48 CREAM OF SPINACH SOUP

1 pint spinach	2 tbsp. butter or oil
1 quart milk	1½ tbsp. flour

Cook the spinach, put through a colander, and add to the hot milk. Thicken by melting the butter, stir in the flour and a half cup of hot water, and cook a few minutes; add to the soup, heat to boiling, and salt to taste just before serving.

Chop a little or all of the spinach and add to the soup just before serving.

49 BOUILLON EN TASSE

2 cups protose	⅔ cup green peas
¾ cup nuttolene	⅓ cup Lima beans
⅓ cup kidney beans	2 quarts water
1½ cups tomato juice	1 small onion
½ cup carrots	¼ cup celery
A sprig of parsley	2 bay leaves

Cook slowly for three hours; do not add peas, beans, and tomato juice until nearly done; then cook one hour longer.

Strain through a cheesecloth until clear. Heat to boil-

ing, salt to taste, and serve in cups. A spoonful of whipped cream may be dropped in each cup if preferred.

If a rich brown color and a meat flavor are desired, add one tablespoonful of caramel.

⁵⁰ VEGETABLE BROTH

1 cup Lima beans	1 cup strained tomatoes
1 cup peas	1 onion

Cook the vegetables for two hours; add strained tomato juice, bay leaf, and salt to taste.

⁵¹ CELERY AND RICE SOUP

1 pint chopped celery	1 quart milk
$\frac{1}{2}$ cup rice	2 tbsp. butter
1 tbsp. flour	Salt to taste

Cook the celery in a pint of cold water for thirty minutes, then add to the hot milk. Put in a double boiler, add the rice, and cook for one hour, or until rice is tender; then melt the butter and stir in the flour. Salt to taste and serve.

The celery may be strained and only the water added to the soup if preferred.

⁵² CREAM OF PEA SOUP

1 cup peas	$1\frac{1}{2}$ tbsp. flour
2 tbsp. vegetable or dairy butter	1 pint milk

Put the peas through a fine colander, and heat; then add to the hot milk. Melt the butter and stir in the flour; add a cup of hot water and stir until smooth; cook a few minutes, then add to the soup.

Salt to taste just before serving.

⁵³ PEA AND CELERY SOUP

$\frac{1}{2}$ cup peas	1 cup chopped celery
1 pint milk	2 tbsp. butter
$1\frac{1}{2}$ tbsp. flour	Salt to taste

Cook the celery in a cup of cold water for thirty minutes, then strain and add the water to the milk. Melt the butter and stir in the flour; add a cup of hot water and stir until smooth; cook a few minutes and add to the soup.

Salt to taste and serve hot.

⁵⁴ TOMATO BROTH

1 quart tomato juice	1 cup water
1 tbsp. butter or cooking oil	$\frac{1}{2}$ tbsp. flour
1 bay leaf	Pinch of thyme or paprika

Heat the water and tomato juice; then melt the butter and stir in the flour and a cup of the juice; stir until smooth, then put all together and season to taste. Heat to boiling and serve.

CHAPTER XII

Entrees

SUBSTITUTES FOR FLESH MEATS

The dietetic value of meat and other animal foods consists principally in the nitrogenous and fatty food elements with which they supply the system.

These food elements are essential to life and health, and if the use of animal foods is discarded, there must be a substitute of the same elements, or else the diet will become impoverished.

The chief source of supply, aside from animal foods, is nuts and legumes, which contain a much higher proportion of nitrogenous material than any other foods, and therefore form a good substitute for flesh foods.

55 PROTOSE PATTIES

1 egg	1 cup chopped protose
$\frac{1}{4}$ cup cream	$\frac{1}{4}$ cup bread crumbs

Mix well together, season with salt and sage, form into patties, and brown in the oven.

56 PROTOSE AND RICE PATTIES

1 cup minced protose	1 egg
1 cup cooked rice	1 tbsp. gluten meal
$\frac{1}{3}$ cup milk	Salt and sage to taste

Mix well, season; form into patties, moisten the top with cream or butter, and bake in oven until brown.

Serve with tomato sauce (No. 545).

57 PROTOSE AND POTATO PATTIES

1 cup minced protose	$\frac{1}{2}$ cup milk
1 cup finely chopped potatoes	1 egg
	Salt to taste
1 tbsp. grated onion	$\frac{1}{4}$ tsp. celery salt

Mix well, season, and form into patties; put in oiled tins and bake in oven until nicely browned. Serve with nut tomato gravy (No. 540).

58 POTATO AND NUT LOAF

1 cup mashed potatoes	1 egg
1 cup ground nut meats	1 tbsp. mazola
1 cup toasted bread crumbs; milk to moisten	

Mix all together, salt to taste, and then form into a nice loaf. Spread the top with butter and cream, and bake in a hot oven until brown. Serve with brown sauce.

59 LENTIL AND WALNUT CAKES

1 cup lentils	2 tbsp. mazola
1 egg	$\frac{1}{4}$ tsp. sage
Salt to taste	$\frac{1}{2}$ cup chopped walnuts

Wash the lentils in several waters and soak over night; then drain, and cook until soft and dry; put through a colander and mix all together. Make into round cakes, put in a buttered tin, and bake in a hot oven fifteen minutes.

Sprinkle a few chopped nuts on top, and serve with tomato sauce.

60 NUT SAUSAGE

$\frac{1}{2}$ cup hot water	2 cups toasted bread
$\frac{1}{2}$ cup mazola	crumbs
1 egg	$\frac{1}{2}$ tsp. grated onion
1 cup chopped nut meats	Sage and salt to taste

Mix all together and form into round cakes. Put in a buttered pan and brown on top of stove, or bake in a hot oven fifteen minutes. Sprinkle chopped nuts on top, and serve with brown sauce.

⁶¹ GERMAN NOODLES

1 egg	2 tbsp. vegetable or dairy
Pinch of salt	butter
Flour enough to make a	$\frac{1}{2}$ tbsp. toasted bread
very stiff dough	crumbs

Beat the egg until light; add salt, work in the flour, and make a smooth, stiff dough. Roll out as thin as a sheet of brown paper; let dry a few minutes, until it does not stick together.

Fold one-half over the other half, and roll up like a jelly roll; then cut into very thin slices, separate them well, spread out to dry; then drop into boiling water.

Cook twenty minutes, drain, and put on the stove. Melt the butter, stir in the bread crumbs, and add to the noodles.

Salt to taste and serve hot.

⁶² BUTTERED NOODLES

1 egg	3 tbsp. vegetable or dairy
Pinch of salt	butter

Flour to make a very stiff dough

Make the same as German noodles (No. 61), but omit the bread crumbs.

⁶³ FRENCH NOODLES

1 egg	3 tbsp. vegetable or dairy
Pinch of salt	butter
$\frac{1}{2}$ cup toasted bread crumbs	Flour to make a very
1 tsp. chopped onion	stiff dough

Make same as German noodles (No. 61), but heat the butter and stir in the bread crumbs. Serve a spoonful with each order.

64 NUT CROQUETTES IN SURPRISE

- | | |
|--------------------|---------------------------|
| 1 cup bread crumbs | 1 cup finely chopped nuts |
| 1 egg | 2 cups mashed potatoes |
| ¼ tsp. sage | Salt to taste |

Mix nuts, bread crumbs, and egg together, and season to taste; then form into small balls and encase them in the mashed potatoes. Roll in egg and crumbs, and brown in a hot oven.

Serve with brown cream sauce (No. 555).

65 NUT BUTTER SAUSAGE

- | | |
|---------------------------|------------------------|
| 3 tbsp. nut butter | 2 cups cooked rice |
| 2 cups hot water | 1 small onion, grated |
| 3 c. toasted bread crumbs | 2 tbsp. cooking oil |
| 1 egg | Sage and salt to taste |

Emulsify the nut butter in a little cold water; then stir in the hot water, and cook a few minutes. Then mix all together and form into round cakes. Put in a buttered pan and brown on top of the stove, or bake in a hot oven fifteen minutes.

Serve with brown onion sauce.

66 NUT AND POTATO PATTIES

- | | |
|---------------------|------------------------|
| 1 egg | 2 cups mashed potatoes |
| 1 tsp. grated onion | ½ cup ground nuts |
| 2 tbsp. mazola | 1 tbsp. flour |

Sage and salt to taste

Mix all together, form into patties, put in an oiled tin, and bake in a hot oven twenty minutes. Serve with nut gravy.

⁶⁷ NUTOSA, No. 1

1 cup cornstarch	1 cup nut butter
$\frac{1}{2}$ cup cold water	$\frac{1}{2}$ cup hot water
$\frac{1}{2}$ tsp. salt	$\frac{1}{4}$ tsp. sage

Emulsify the nut butter in the cold water, and stir in the cornstarch; then mix all together, put in a double boiler or in a can, seal or solder tightly, and steam or cook in boiling water for six hours.

When cold, it can be cut in slices and served cold or broiled as desired.

⁶⁸ NUTOSA, No. 2

1 cup raw nut butter	2 tbsp. cornstarch
1 tsp. salt	3 tbsp. cold water

Dissolve the cornstarch in the water, then mix all together; put in a can, seal or solder tightly, and steam or cook in boiling water for six hours.

⁶⁹ SPANISH STEW

1 cup tomatoes	$\frac{1}{2}$ cup nuttolene
1 cup protose	1 tbsp. celery salt
$\frac{1}{4}$ cup carrots	1 onion
1 cup potatoes	1 bay leaf
1 tbsp. butter	

Cut the vegetables in half-inch dice; cook until tender; cut up the nuttolene and protose and add. Make a sauce by melting the butter and stirring in the flour until smooth; add the liquid of the stew and boil a few minutes.

A little tomato juice may be added.

70 VEGETARIAN HAMBURGER STEAK

1 cup protose	$\frac{1}{2}$ tsp. paprika
1 grated onion	$\frac{1}{2}$ cup nuttolene
$\frac{1}{2}$ cup toasted bread crumbs	Cream to moisten Salt to taste
$\frac{1}{4}$ tsp. celery salt	

Mince protose and nuttolene fine, mix well, salt to taste, form into patties, and bake in a hot oven ten minutes. Serve with tomato sauce (No. 545).

71 PROTOSE CUTLETS

Sprinkle the bottom of a baking pan with ground flakes; lay slices of protose on the flakes, then sprinkle a thin layer of flakes over it, and cover with the following sauce: 1 cup milk; 1 egg. Beat egg, add milk, and salt to taste; pour over the protose, and bake until custard is set.

Cut into any shape desired and serve.

72 NUTTOLENE CUTLETS

Make the same as protose cutlets (No. 71) using nuttolene instead of protose.

73 PROTOSE CUTLETS WITH JELLY

Cut protose in slices and roll in milk and eggs beaten together, then in fine bread crumbs; put in an oiled tin and moisten the top with cream; brown in the oven.

Serve with jelly and garnish with parsley.

74 NUTTOLENE CUTLETS WITH JELLY

Make the same as protose cutlets (No. 73), using nuttolene instead of protose.

75 NUT LOAF WITH GREEN PEAS AND BROWN SAUCE

$\frac{1}{8}$ cup protose	1 cup nuttolene
$\frac{1}{2}$ cup bread crumbs	$\frac{1}{4}$ grated onion
1 egg	$\frac{1}{4}$ cup milk

Mix well together, season with salt and sage, form into a loaf, moisten the top with cream, and bake in a slow oven forty-five minutes. Prepare green peas with brown cream sauce (No. 555), pour over each slice, and garnish with parsley.

76 NUT IRISH STEW

1 pt. diced potatoes	$\frac{3}{4}$ cup water
1 cup tomato juice	$\frac{1}{2}$ pt. diced protose
$\frac{1}{2}$ grated onion	$\frac{1}{2}$ tsp. nut butter
$\frac{1}{2}$ tsp. brown flour	Salt to taste

Steam the potatoes until tender, then add the other ingredients, and stew one-half hour. Salt to taste and serve hot.

77 BRAIZED PROTOSE

Cut the protose into half-inch slices and lay in a pan as for broiling, letting one piece overlap the other. Put in the bottom of the pan a thin layer of grated onion and a little sage or celery salt. Pour over it the following sauce, and cook in oven three-fourths of an hour:—

1 carrot	1 onion
2 cups protose	$\frac{1}{2}$ head cabbage
$\frac{1}{3}$ cup peas	Salt to taste

Cover with cold water and cook three hours; thicken with brown flour and use.

78 LENTIL AND RICE CROQUETTES

1½ cup lentils	2 cups cooked rice
1 cup milk	2 eggs

Soak the lentils over night; in the morning drain off the water and cook until tender; then put through a colander; mix all together thoroughly; season with salt and sage; form into croquettes, roll in beaten egg, then in bread crumbs.

Sprinkle cream on top, put in oven, and bake a delicate brown. Serve with tomato sauce (No. 545).

79 ROAST IMPERIAL

1 cup peas pulp	1 cup lentil pulp
½ tsp. paprika	Pinch of sage
1 tbsp. chopped walnuts	

Mix well together, salt to taste; put in a pan and form into a loaf; cover with dressing (No. 101), and bake in a moderate oven twenty minutes. Serve with cranberry or chili sauce (No. 559).

80 WALNUT PATTIES

¾ cup minced protose	½ cup chopped walnuts
1 egg	¼ cup chopped parsley
½ cup bread crumbs	Salt to taste
1 grated onion	Pinch of sage

Mix all together, form into patties, moisten the top with cream, and bake twenty minutes. Serve with nut tomato gravy (No. 540), and garnish with parsley.

81 MARBLE BEAN AND PEA ROAST

Soak the beans over night; drain off the water; put on in boiling water; when tender and the water is nearly all boiled away, put through a colander.

Season with butter and salt to taste, and add bread crumbs to make quite stiff. Then put in an oiled pan a spoonful of the bean mixture and one of peas prepared in like manner, until the pan is full.

Bake half an hour and serve with brown gravy (No. 543).

⁸² NUT AND RICE CROQUETTES

$\frac{1}{2}$ pt. minced protose	1 quart cooked rice
$\frac{1}{2}$ pt. minced nuttolene	1 cup milk
1 cup bread crumbs	1 egg
1 tbsp. cooking oil	Sage and celery salt

Mix well, season with salt and sage, and shape into croquettes. Roll in bread crumbs, moisten the top with cream, and bake in a quick oven until a delicate brown.

Serve with egg sauce (No. 536) or jelly, and garnish with parsley.

⁸³ MOCK TURKEY ROAST

1 tbsp. cooking oil	1 tsp. celery salt
1 qt. nuttolene	2 small eggs
$\frac{3}{4}$ qt. bread crumbs	Cream to moisten

Mince nuttolene fine, mix all together, add salt and sage to taste, and form into turkey legs. Use a short piece of macaroni for the bone or drumstick. Spread the top with cream and brown in a hot oven for ten minutes.

Serve with tomato sauce (No. 545).

⁸⁴ NUT TURKEY ROAST

1 tbsp. granola	1 tbsp. gluten or brown flour
1 cup cooked lentils	
1 cup chopped nuts	Cream to moisten
$\frac{1}{4}$ tsp. celery salt	1 tbsp. mazola
1 grated onion	Sage and salt to taste

Put lentils through a colander; mix all together; season; then place in a baking pan, spread top with cream, and bake thirty minutes.

Serve with nut tomato gravy (No. 540) and garnish with parsley.

85 SAVORY NUT MEAT

1 cup nut butter	$\frac{1}{2}$ cup water
1 cup strained tomatoes	1 bay leaf
$\frac{1}{2}$ cup cornstarch	Salt to taste

Cook bay leaf and tomato together ten minutes, then remove the bay leaf; mix all together and cook in a double boiler, or steam three hours. May be cut in thin slices and served with jelly.

86 ROAST PROTOSE

Cut a can of protose in halves lengthwise; lay in a pan and spread with nut butter, dairy butter, or cocoanut butter and a little grated onion on top, and cover with the following dressing:—

1 cup water	1 cup tomato juice
1 tbsp. lemon juice	Salt and celery salt to taste

Cook in a moderate oven one hour.

87 PROTOSE FRICASSEE

Cut one pint of protose into half-inch cubes; add enough water to nearly cover; stew slowly for one and a half hours, or until nearly dry; then add the following dressing:—

$\frac{1}{2}$ tbsp. nut butter	$\frac{1}{4}$ tbsp. brown flour
$\frac{1}{2}$ tbsp. white flour	$\frac{1}{2}$ grated onion

1 cup strained tomatoes

Emulsify the nut butter in half a cup of water; add the tomato, heat to boiling, and thicken with the flour, rubbed smooth in a little cold water. Season to taste and add to the protose.

Serve with mashed potato or steamed rice, and garnish with parsley.

88 PROTOSE AND RICE CROQUETTES

1 cup protose	1 egg
1 cup cooked rice	$\frac{1}{4}$ cup gluten meal or
1 tbsp. cooking oil	bread crumbs
$\frac{1}{4}$ cup milk	

Mince the protose, add to the other ingredients, and mix well; season to taste, form into croquettes, then roll in beaten egg and fine bread crumbs. Put in an oiled tin and bake in the oven thirty minutes. Serve with egg sauce (No. 536) or jelly, and garnish with parsley.

89 NUTTOLENE ROAST

$1\frac{3}{4}$ cups nuttolene	1 tbsp. mazola
$\frac{1}{3}$ cup toasted bread	$\frac{1}{4}$ cup cream
crumbs	1 egg
1 grated onion	$\frac{1}{4}$ tsp. celery salt

Mince the nuttolene fine, then mix all together. Season with salt and sage; put in an oiled pan, moisten the top with cream or butter, and bake in a moderate oven thirty minutes. Cut in slices and serve with tomato gravy (No. 538), and garnish with parsley.

90 PROTOSE WITH DRESSING

Cut a can of protose lengthwise in two; put in a pan, fill one-fourth full with hot water, and bake one hour.

Slice, and serve with the following dressing:—

1 pt. fresh bread crumbs	1 egg
$\frac{1}{3}$ cup toasted bread crumbs	1 tbsp. butter

Mix lightly; season with salt and sage; put out in an oiled pan, moisten the top with cream, and bake thirty minutes in a moderate oven. Serve with brown gravy (No. 543).

⁹¹ PROTOSE ROAST

Make the same as nuttolene roast (No. 89), using protose instead of nuttolene. Season with onion.

⁹² POTATO AND NUT PIE

Pare the potatoes, steam or cook until tender, then mash and spread a thin layer in the bottom and on the sides of a baking pan then add a layer of the nuttolene and protose; seasoned with salt, sage and celery salt.

Spread potatoes on top, moisten the top with cream and bake thirty minutes.

⁹³ NUT AND VEGETABLE ROAST

1 cup protose sliced thin	1 grated onion
1 cup potatoes	1 tsp. chopped parsley

Put a layer of protose in the bottom of a baking pan, then the potatoes (which have been cooked and salted), onion and parsley; put a layer of protose on the top, and pour the following dressing over it and bake in a moderate oven forty-five minutes:—

1 cup water	$1\frac{1}{4}$ tbsp. brown flour
$\frac{2}{3}$ tsp. salt	2 tbsp. nut butter
1 cup strained tomatoes	

Emulsify the nut butter in the water by adding a little at a time, heat to boiling and add the hot tomato juice, thicken with the flour and salt to taste.

94 PROTOSE SOUFFLE

1 pint milk	1 pint protose
2 tbsp. cornstarch	2 eggs

Heat the milk to boiling and thicken with the cornstarch, rubbed smooth in a little cold water. Stir in the yolk of eggs, mince the protose fine and add; then beat up the whites and stir into the mixture.

Season with celery salt and salt to taste; put in buttered cup and bake twenty minutes in a moderate oven and serve hot.

95 NUTONA

1 tbsp. nut butter	1 tbsp. flour
1 tbsp. water	Salt and sage to taste
1 quart gluten	

Emulsify the nut butter in the water and stir in the flour.

Prepare the gluten as follows: Make a stiff dough of one pint cold water and two quarts of good flour; knead thoroughly, put into cold water, and let stand one hour.

Then work it carefully with the hands in the cold water and the starch will wash out. Change the water until it remains clear, then add to the other ingredients and season to taste.

Put it through a food chopper several times until smooth and no lumps remain, then steam in a double boiler or sealed cans five hours.

96 NUT ROAST WITH POTATO

Cut protose into slices, place in a pan, add salt and sage, cover with water, and bake one hour.

Place cooked and pared potatoes on each slice; baste with cream and bake in a hot oven until brown.

97 PROTOSE ROAST

1 pint protose	1 cup milk
1 cup granola or bread crumbs	2 eggs
	Salt and sage to taste

Mix well, put in a buttered pan, moisten the top with cream, and bake until brown.

Serve with sauce imperial (No. 557), and garnish with parsley or water-cress.

98 NUT AND CORN ROAST

$\frac{2}{3}$ cup nuttolene	$1\frac{1}{3}$ cups toasted bread crumbs
1 cup protose	
$1\frac{3}{4}$ cup corn	$\frac{3}{4}$ cup milk
Salt and celery salt to taste	2 eggs

Mince the protose and nuttolene, add to the corn, which has been put through a colander, then mix in the bread crumbs, cream, and eggs, and salt to taste.

Put out in an oiled tin; moisten the top with cream or oil and bake in oven until brown. Serve with brown gravy (No. 543).

99 PROTOSE AND GLUTEN PATTIES

1 cup minced protose	1 tbsp. milk
2 tbsp. gluten meal	1 egg, well beaten
$\frac{1}{8}$ tsp. celery salt	Salt and sage to taste

Mix well; shape into small patties, put in an oiled tin, moisten the top with cream, and bake until light brown.

100 SAVORY NUT ROAST

1 cup protose or nuttolene 1 tbsp. grated onion
1 qt. fresh bread crumbs 1 egg
Cold water to moisten Salt to taste
 $\frac{1}{2}$ tsp. paprika Pinch of thyme and sage

Mince the protose, add the egg, bread crumbs, onion, and water; then season to taste. Put out in a baking pan, and bake in a medium hot oven for thirty minutes.

Serve with tomato gravy (No. 538), and garnish with parsley.

101 SAVORY DRESSING

1 qt. stale bread crumbs $\frac{1}{2}$ tsp. paprika
 $\frac{2}{3}$ c. toasted bread 2 tsp. grated onion
crumbs 2 eggs
Cold water to moisten 3 tbsp. butter
Salt, sage, and thyme to taste

Mix lightly with a fork, and do not make it too wet, so as to make it heavy and soggy. Soak bread in cold water if hard. Press out dry; put out in an oiled tin, and bake in a moderately hot oven twenty minutes.

Serve with tomato sauce (No. 545).

102 NUT FILLETS

Slice protose and nuttolene each one-third inch thick; place a layer of nuttolene in the bottom of a pan, then a thin sliced or grated onion on each slice of nuttolene, and a layer of protose on top; pour over this strained tomato enough to cover well. Add a few bay leaves or thyme to flavor, and salt to taste.

103 PROTOSE HASH

1 quart protose	1 grated onion
1 pint potatoes	Sage and salt to taste

Hash the protose and the potatoes, add onions, and season to taste. Put in an oiled tin; put bits of butter over the top, or cover with thick cream, and bake until brown.

104 SIMMERED PROTOSE WITH RICE

Cut protose in half-inch cubes, add water enough to cover; cook slowly in the oven for three hours, adding more water if needed, but should be cooked away at last so that protose is slightly juicy. Flavor with chopped celery and onion.

Salt to taste and serve with a spoonful of boiled rice to each order.

105 MACARONI ROAST

1 qt. cooked macaroni	2 eggs
1 qt. stale bread crumbs	1 tbsp. grated onion
1¼ pt. milk	

Salt and sage to taste

Beat the eggs, add milk and bread crumbs. Soak bread in cold water if hard. Press out dry. Then mix in the macaroni, onion, and season to taste. Add more milk if needed; put in the oven and bake about thirty minutes.

106 VERMICELLI ROAST

1 pt. cooked vermicelli	1½ pt. milk
1 pt. stale bread crumbs	2 eggs
Salt and sage to taste	1 tsp. grated onion

Make the same as macaroni roast (No. 105), using vermicelli instead of macaroni.

107 NUT FISH BALLS

1 cup minced protose	$\frac{1}{2}$ tsp. grated onion
1 cup mashed potatoes	1 egg
1 tsp. shredded cocoanut	$\frac{1}{2}$ tsp. salt

Mix well together, form into patties, and broil or bake in the oven a nice brown.

108 LENTIL ROAST

1 $\frac{1}{4}$ cups lentils	$\frac{1}{4}$ onion
1 cup bread crumbs	$\frac{1}{8}$ tsp. thyme or sage
$\frac{1}{4}$ tsp. celery salt	Salt to taste

Cook lentils until tender and nearly dry; about twenty minutes before the lentils are done, cut the onion in quarters and put in bottom of the dish and cook until done; then remove onion, put lentils through a colander, add bread crumbs, thyme, and salt. If it is too dry, add a little water or cream. It should be stiff enough to cut in slices when baked. Spread out in a buttered pan, moisten the top with rich cream, and bake thirty minutes in a moderate oven.

Serve with sauce imperial (No. 557), and garnish with parsley.

109 VEGETABLE NUT ROAST

1 $\frac{1}{2}$ tbsp. nut butter	1 pt. cooked rice
1 pt. toasted bread crumbs	1 $\frac{1}{2}$ pt. water
Salt and sage to taste	1 tbsp. chopped celery
1 grated onion	$\frac{1}{2}$ tsp. paprika

Emulsify the nut butter in part of the water, adding a little at a time to make it smooth; put in the rest of the water and cook until it thickens; then mix in the bread crumbs, rice, and celery, and more water if needed; then season to taste.

It should be thick enough to slice when baked. Put in a pan, moisten the top with cream, and bake for thirty minutes.

Serve with tomato sauce (No. 545), and garnish with parsley. May be formed into patties or croquettes, if preferred.

110 MACARONI WITH CORNLET

$\frac{1}{2}$ cup macaroni	$\frac{1}{2}$ cup cream
1 pt. boiling water	1 tsp. salt
$\frac{1}{2}$ cup corn pulp	

Cook the same as in recipe No. 114; after being strained, put out in a pan; mix the corn pulp and cream together, salt to taste, and bake in a moderate oven for thirty minutes.

111 MACARONI WITH PROTOSE

$\frac{1}{2}$ cup macaroni	$\frac{1}{2}$ tsp. salt
1 pt. boiling water	1 tbsp. flour
$\frac{1}{2}$ cup toasted bread crumbs	3 cups rich milk
$\frac{3}{4}$ cup protose, cut in $\frac{1}{2}$ -inch cubes	

Cook same as in recipe No. 114; after it is drained, mix with it the protose and bread crumbs, salt to taste, place in a baking dish, and pour over it the milk, thickened with the flour and salt to taste.

Bake in a moderate oven for half an hour and serve.

112 MACARONI WITH FRUIT SAUCE

$\frac{1}{2}$ cup macaroni	$1\frac{1}{2}$ cups fruit juice
1 pt. boiling water	1 tsp. cornstarch
$\frac{1}{2}$ tsp. salt	1 tsp. sugar

Cook the same as in recipe No. 114; drain and put in a dish, add the fruit juice, which has been thickened with the cornstarch, and sweetened if sour, and serve.

113 MACARONI WITH CREAM SAUCE

Make same as macaroni with egg sauce (No. 114), omitting the eggs.

114 MACARONI WITH EGG SAUCE

1 cup macaroni	1 pint rich milk
1 qt. boiling water	2 eggs
1 tsp. salt	1 tbsp. flour

Break macaroni into inch pieces, drop into the boiling salted water, and cook twenty minutes, being careful not to let it stick to the bottom. A double boiler is best, but it must cook longer.

When done, drain in a colander and pour cold water over it for a minute; then put out in a pan and pour over it the egg sauce, made by heating the milk to boiling and thickening with the flour. Pour over the well beaten eggs, and salt to taste.

Pour this over the macaroni and bake in oven for about thirty minutes.

115 MACARONI WITH TOMATO

½ cup macaroni	1 cup strained tomato
1 pt. boiling water	1 tsp. salt

Cook same as in recipe No. 114; after being drained, pour over it the strained tomato; add a little butter if desired, and serve hot.

116 MOCK CHICKEN STEW

2 diced potatoes	½ cup diced protose
½ cup strained tomatoes	1 chopped onion

Emulsify the peanut butter in the tomato juice, and stir in the salt.

Prepare the gluten as follows: Make a stiff dough of one and one-half pint of cold water and three quarts of good flour; knead thoroughly, put in cold water and let stand one hour.

Then work it carefully with the hands in the water and the starch will wash out. Change the water until it remains clear, then add to the other ingredients.

Put through a food chopper several times, or mix well with the hands until thoroughly mixed and no lumps remain.

Then steam in a double boiler, or sealed can five hours.

To make savory vegetable meat, add $\frac{1}{2}$ tsp. sage and $\frac{1}{2}$ tsp. celery salt.

120 VEGETARIAN BEEFSTEAK

1 pint cooked lentils	3 cups toasted bread crumbs
$\frac{1}{4}$ tsp. celery salt	$\frac{1}{2}$ cup tomato juice
$\frac{1}{4}$ cup cooking oil	Sage and salt to taste

Put the lentils through a colander, and mix with the other ingredients; let stand a few minutes, then mix well and put in a double boiler, or sealed can and cook two hours.

121 BROILED PROTOSE

Cut the protose into thin slices, and broil in a wire broiler over the coals or on a gridiron, or it may be laid in an oiled pan with a very little butter spread over the top, and put in a hot oven from five to ten minutes until of a delicate brown, but not hard and dry.

May be served with jelly or some kind of gravy.

122 MACARONI WITH CHEESE

1 $\frac{1}{4}$ cups macaroni	$\frac{1}{4}$ cup cracker crumbs
$\frac{3}{4}$ cup boiling water	$\frac{1}{2}$ tsp. salt
1 cup cream sauce	$\frac{3}{4}$ cup cottage cheese
(No. 560)	

Cook the same as in recipe (No. 114). Put into a pan in layers with the cream sauce and sprinkle with cracker crumbs; repeat until the pan is full, then bake twenty minutes.

123 MACARONI CUTLETS

1 cup macaroni	1 cup milk
1 $\frac{1}{2}$ tbsp. flour	1 egg
1 cup minced protose	Salt to taste
1 tbsp. cooking oil	1 grated onion
Bread crumbs to thicken	

Cook macaroni as in recipe (No. 114); drain and chop fine.

Boil the milk and thicken with flour, stir in well-beaten egg, beat thoroughly; add macaroni, protose, and salt, making it stiff with bread crumbs.

Form into patties or cutlets about two by four inches and bake until nicely browned.

124 MACARONI WITH GRANOLA

$\frac{1}{2}$ cup macaroni	1 cup granola
1 pt. boiling water	1 tsp. salt
Cream to moisten	

Cook macaroni as in recipe (No. 114); put in layers in a baking pan with the granola, repeat until the dish is full and salt to taste; granola on top, moisten the top with cream and bake twenty minutes in a moderate oven.

125 EGG MACARONI

1½ cups macaroni	2 cups cream sauce
3 hard-boiled eggs	¼ cup bread crumbs
¾ qt. boiling water	¾ tsp. salt

Cook as in recipe (No. 114); put in a baking pan and sprinkle over it the hard-boiled eggs, which have been put through a colander, pour over this the cream sauce, sprinkle the top with bread crumbs and bake until nicely browned.

126 MACARONI AU GRATIN

1 cup macaroni	1 egg
1 pt. boiling water	¼ cup cracker crumbs
½ tsp. salt	⅓ cup cream
1 cup cottage cheese	

Cook macaroni as in recipe (No. 114), when done, drain; put cottage cheese in a dish, add cracker crumbs and the macaroni, the beaten egg and salt to taste. Stir as light as possible so as not to break the macaroni, sprinkle the top with cracker crumbs and brown in oven.

127 COTTAGE CHEESE

Set a pan of thick sour milk in a dish of hot water, or on the back of the stove where it will heat gradually until the whey separates from the curd.

Do not boil, for that will make the curd tough. Turn into a fine colander or cheese cloth and drain.

When quite dry turn into a dish, and rub fine with a fork or wire potato masher; add a little cream and salt to taste.

Beat until light and smooth, then set in a cool place. It may be formed into balls with the hands, but it should be considerably thicker.

128 TOMATO TIMBALES

 $\frac{1}{2}$ tbsp. cream

1 egg

1 cup tomato pulp, no juice

Salt to taste

Mix well together, put in gem irons, set in a pan of hot water, and bake twenty-five minutes.

Serve cold or hot with cream sauce (No. 560), or garnish with parsley or water-cress.

129 CREAMED CHIPPED PROTOSE

Cut protose into fine chips, put in a pan, and cover with rich cream sauce (No. 560), and put in the oven for ten minutes. Serve on a small platter and garnish with parsley.

It is also very nice served on toast moistened in hot water or milk and spread with butter.

130 SOY BEAN LOAF

 $\frac{1}{2}$ cup peanut butter $1\frac{1}{2}$ cups soy bean puree $\frac{1}{2}$ cup water

4 tbsp. cornstarch

 $1\frac{1}{2}$ tsp. salt

1 tbsp. tomato juice

Emulsify the peanut butter in part of the water, dissolve the cornstarch in the remaining water and add.

Soak the beans over night, drain this water off and cover with hot water and cook till tender, then put through a colander.

Mix all the ingredients together, put in a double boiler or sealed can and cook four hours.

131 SAVORY NUT MEATO

1 cup nut butter

1 cup strained tomato

1 bay leaf

 $\frac{1}{2}$ cup water $\frac{1}{2}$ cup cornstarch or flour

Salt to taste

Cook bay leaf and tomato together for ten minutes, then remove the bay leaf. Mix all together, and cook in a double boiler or steamer for three hours.

May be cut in thin slices and served with jelly.

¹³² VEGETABLE CUTLETS WITH GREEN PEAS BROWN SAUCE

1 cup lentil pulp	1 cup cooked rice
1 cup minced protose	$\frac{1}{3}$ cup tomato sauce
$\frac{1}{3}$ cup bread crumbs	Salt to taste
	1 tsp paprika

Mix well, season with salt and sage; roll out into ob-long patties about two by four inches, and bake in the oven till a nice brown.

Serve with green peas and brown cream sauce (No. 555), and garnish with parsley.

¹³³ MOCK VEAL PIE

1 cup potatoes	1 cup protose, sliced thin
1 tsp. butter	1 cup nuttolene, sliced thin
Pinch of celery salt	Salt to taste

Dice the potatoes, cook or steam until tender, season with butter and salt; then put in a buttered dish; a layer of protose, then a layer of potatoes, then a layer of nuttolene and another layer of potatoes on top. Cover with a pie crust, put in the oven, and bake until crust is done.

¹³⁴ NUT CHEESE

1 cup nut butter	$\frac{1}{2}$ cup tomato juice
$\frac{1}{2}$ cup water	1 tsp. salt
$\frac{1}{2}$ cup cornstarch	

Dissolve the nut butter and cornstarch in the water and tomato juice. Add the salt and beat for ten minutes.

Turn into a double boiler, cover well, and cook for six hours; dry it off in the oven, and turn out from the double boiler.

Use as ordinary cheese, or make into sandwiches.

135 RICE AND WALNUT PATTIES

2 cups cooked rice	$\frac{1}{3}$ cup ground English
1 cup toasted bread crumbs	walnuts
1 tsp. grated onion	Sage and salt to taste
2 tbsp. cooking oil	$\frac{1}{2}$ tsp. celery salt

Mix all together, season to taste, form into patties, then put in an oiled pan and brown on top of the stove or in a hot oven thirty minutes. Serve with tomato gravy.

136 BAKED RICE AND SPAGHETTI

$\frac{1}{2}$ cup rice	1 pint milk
1 pint spaghetti	2 eggs
$\frac{1}{2}$ cup mazola	Salt to taste

Put the spaghetti to cook in boiling water. Boil ten minutes, then drain the water off through a colander and pour a little cold water through it. Beat the eggs, add the milk and spaghetti. Cook the rice in boiling salted water or steam, then put all ingredients together, add oil, and salt to taste. Put in a pan and bake until it browns and thickens.

137 VEGETABLE OYSTER FRITTERS

2 cups mashed vegetable	2 tbsp. butter
oysters	$\frac{1}{2}$ lemon
1 tsp. salt	$\frac{1}{2}$ tsp. celery salt
1 egg	

Wash and scrape the vegetable oysters and cook in boiling water and add the lemon juice to prevent its turning dark. When tender, drain, mash and season with butter and salt. Beat the egg slightly and add three-fourths of it to the vegetable oysters. Form into patties and place in a pan. Add half a tablespoon of milk to the remainder of the egg, and brush the patties with it. Bake until a delicate brown. Garnish with parsley or lettuce.

138 PRESSED NUT MEAT

1 lb. protose or vegetable meat	1 oz. vegetable gelatine
	1½ tsp. celery salt
⅓ lb. nuttolene	1½ tsp. salt
1 cup roasted walnuts	½ tsp. sage
2 cups boiling water	2 cups tomato juice

Mince the protose and nuttolene. Chop the walnuts quite fine and add; then add sage, salt, celery salt and tomato juice. Soak the vegetable gelatine in warm water one hour. Drain and put to cook in the boiling water. Let boil about ten minutes or until it is dissolved and strain into the mixture. Pour into individual bread tins, wet with water, and set away to harden. When ready to serve turn out and cut into thin slices. Garnish with parsley and slices of egg.

139 NUT CHOPS

2 tbsp. peanut butter	6 slices bread
1 egg	1 cup cracker crumbs
½ cup milk	¼ tsp. salt

Emulsify the peanut butter in a little cold water and spread the bread, then cut into three oblong pieces. Beat the egg and add the milk: dip the bread into this, then into cracker crumbs. Place in an oiled pan and bake in a hot oven until brown.

140 POTATO AND RICE CROQUETTES

1 cup mashed potatoes	$\frac{1}{2}$ cup cooked rice
$\frac{1}{2}$ tsp. grated onion	$\frac{1}{4}$ tsp. salt
1 tbsp. milk	$\frac{1}{2}$ cup toasted bread crumbs
1 egg	Small pinch of sage

Mix the mashed potatoes, rice, onion, sage and salt with the milk. Shape, and dip into the beaten egg. Roll in bread crumbs and bake until brown.

141 DUMPLINGS

2 eggs	1 tsp. salt
$1\frac{1}{4}$ cups milk	1 tsp. soda
2 tbsp. vegetable butter or mazola	80 minims or 1 tsp. hydro- chloric acid C. P.
$2\frac{1}{2}$ cups flour	

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Beat the eggs until light then add the milk, salt, butter or oil, and stir in half of the flour. Put in the hydrochloric acid and soda, and stir in the rest of the flour. Drop them in the boiling soup or boiling salted water in half teaspoonfuls and cook fifteen to twenty minutes.

142 NUT LOAF

1 cup raw peanut butter	4 tbsp. cornstarch
1 tsp. salt	4 tbsp. cold water

Emulsify the nut butter with half of the water, then stir in cornstarch, dissolved in the remaining water. Add salt and mix well. Put in a double boiler or sealed can and cook from four to six hours.

143 NUTMEATOSE

1 cup cold water	2 tsp. cooking oil
$\frac{1}{4}$ cup tomato juice	$\frac{1}{4}$ tsp. salt
1 cup toasted bread crumbs	$\frac{1}{2}$ tsp. cornstarch
$\frac{1}{2}$ cup peanut butter	$\frac{1}{4}$ tsp. sage

Emulsify the nut butter with the water; then stir in cornstarch and all the ingredients together. Put in a double boiler or sealed can and cook three hours.

144 WALNUT ROAST

1 cup ground walnuts	$1\frac{1}{2}$ cups milk
$1\frac{1}{2}$ cup toasted bread crumbs	2 tbsp. mazola
	2 eggs
1 tsp. salt	$\frac{1}{4}$ tsp. celery salt
1 tsp. grated onion	

Beat the eggs light, add the milk, oil and bread crumbs. Add the other ingredients, put into an oiled tin and bake in a moderately hot oven thirty minutes. Serve with tomato sauce and garnish with parsley.

145 HOMINY CHOWDER

1 cup cooked hominy	1 cup milk
$\frac{1}{4}$ cup cooking oil	$\frac{1}{4}$ tsp. paprika
1 tbsp. butter	$\frac{1}{4}$ tsp. celery salt
$\frac{1}{2}$ cup toasted bread crumbs	Salt and sage to taste
	1 small onion

Chop the onion and brown with the oil in a pan, then add bread crumbs. Mix with the corn and milk and season to taste. Put in a baking pan, put the butter over the top, and bake in a hot oven thirty minutes. Serve with brown gravy.

146 BEAN LOAF

- | | |
|------------------------|-------------------------------|
| 1 cup navy beans | $\frac{1}{2}$ cup cooking oil |
| 1 cup red kidney beans | 1 cup toasted bread |
| 1 tsp. grated onion | crumbs |
| Sage and salt to taste | |

Mix all together, season to taste. Put into an oiled pan, form into a loaf, moisten top with oil or cream and bake in a hot oven thirty minutes. Serve with brown sauce.

CHAPTER XIII

Vegetables

Vegetables can be obtained in all parts of the world, and no foods are more universally served as a part of the daily bill of fare of rich and poor alike, and none are more frequently spoiled in cooking.

Vegetables do not furnish the most nutritious diet, but are rich in mineral substances and other organic fluids essential for the blood. They also give bulk to the food, so that one is not so likely to overeat.

Such vegetables, however, as peas, beans, and lentils, properly termed legumes, are highly nutritious, as they contain a large amount of protein, used in building and repairing tissue, and are therefore used in place of meat.

147 RULES FOR COOKING VEGETABLES

To obtain the best results, vegetables should be well cooked and yet not overdone. If not thoroughly done, they are harder to digest and unpalatable, and if overdone they become soggy and tasteless. Vegetables are classed with other foods that make a healthful diet, and if rightly combined with other foods, such as nuts and grains, are not so hard of digestion, and many nutritious and palatable dishes can be made from them.

A general rule should be applied to all vegetables to be boiled or stewed—to cook them in as little water as possible without burning. The salts and nutritious juices are lost largely in the water, and if this is drained off much of the nutriment is wasted, and the natural or rich flavor is lost.

Strongly flavored vegetables, such as onions, cabbage, or spinach and greens, should be parboiled, that is, put on in cold water and allowed to boil for about five minutes after coming to a boil, then drained off and put on in boiling salted water. Dry vegetables, as potatoes, carrots, turnips, beets, beans, peas, or lentils, should be cooked in unsalted water until nearly done, then add salt. The salt combines with the legumin, a form of protein, and forms an insoluble compound, thus making them very hard to cook. Salt hardens the water and the cellulose in vegetables, causing them not to cook tender so readily. It also sets the color in the vegetables.

In cooking vegetables by boiling, they should be put in the water as soon as the boiling begins and kept gently, not furiously, boiling until they are done, in a closely covered vessel. However, onions, cabbage, or carrots are better if left uncovered during the cooking, thus letting the strong gases pass off in the steam, giving them a finer flavor. If necessary to add more water, let it also be boiling hot.

Fresh succulent vegetables should be put to cook in salted water.

Steaming, or baking and roasting, is preferable for most vegetables, because their finer flavors are more easily retained. It is both economy and an improvement to pare potatoes and some other vegetables thin, as much of the most nutritious portion lies next to the skin. Tomatoes may be readily peeled by pouring over them a little scalding water, or steaming a few minutes; then drop into cold water to retain their firmness and cool them.

148 CLASSIFICATION OF VEGETABLES

Tubers.—White potatoes and Jerusalem artichokes.

Roots.—Beets, carrots, parsnips, radishes, sweet potatoes, turnips, and salsify.

Bulbs.—Garlic, onions, and shallots.

Stems.—Asparagus, celery, and chives.

Leaves.—Brussels sprouts, spinach, sorrel, beet greens, cabbage, lettuce, dandelions, and water-cress.

Flowers.—Cauliflower.

Fruit.—Beans, peas, lentils, corn, squash, tomatoes, cucumbers, and egg-plant.

Vegetables are especially valuable for their potash salts, and should form a part of each day's dietary.

¹⁴⁹ COMPOSITION OF COMMON VEGETABLES,
GIVING THE NUTRITIVE VALUES

	Protein	Fat	Carbo- hydrates	Min. Matter	Water	Calories per 100 grams
Asparagus	1.8	.2	3.0	1.0	94.0	19
Beans	7.1	.7	22.0	1.7	68.5	115
String beans	2.2	.4	9.4	.7	87.3	21
Beets	1.6	.1	9.6	1.1	87.6	54
Cabbage	2.1	.4	5.8	1.4	90.3	32
Carrots	1.1	.4	9.2	1.1	88.2	46
Cauliflower	1.6	.8	6.0	.8	90.8	31
Kohl-rabi	2.0	.1	5.5	1.3	91.1	38
Celery	1.4	.1	3.0	1.1	94.4	19
Cucumber	.8	.2	2.5	.5	96.0	18
Lettuce	1.3	.4	3.3	1.0	94.0	20
Onions	4.4	.8	.5	1.2	93.5	35
Parsnips	1.7	.6	16.1	1.7	79.9	66
Green peas	4.4	.5	16.1	.9	78.1	119
Potatoes	2.1	.1	18.0	.9	78.9	97
Sweet potatoes	1.8	.7	27.1	1.1	69.3	204
Spinach	2.1	.5	3.1	1.9	92.4	57
Squash	1.6	.6	10.4	.9	86.5	52
Tomatoes	.8	.4	3.9	.5	94.4	23
Turnips	1.4	.2	8.7	.8	88.9	41
Sweet corn	2.8	1.1	14.1	.7	81.3	104
Eggplant	1.2	.3	5.1	.5	92.9	29

These may vary somewhat with the quality of the vegetables.

150 ROASTED POTATOES No. 1

Pare potatoes, put in a baking pan, cover about two-thirds full with protose broth (No. 649); season with salt; cook in the oven until nearly done, then spread with butter, and cook until tender. Baste occasionally to make nice and brown.

Or put in a baking pan, cut protose in small pieces, and add to the potatoes; sprinkle with a little chopped onion and salt to taste. When nearly done, spread with butter and cook until tender.

151 LYONNAISE POTATOES

Pare and dice potatoes into half-inch pieces, then cook or steam until tender; put in an oiled pan; cover the bottom of pan with finely chopped onions, slightly browned in oven. Sprinkle chopped parsley and butter over the potatoes, and brown very slightly in oven.

152 ESCALLOPED VEGETABLE OYSTERS OR SALSIFY

Scrape vegetable oysters, slice them and steam or boil until tender; put a layer in the bottom of the baking pan, pour cream sauce (No. 560) over them. Sprinkle with salt, another layer of oysters, and a little more salt. Then cover with gravy, and sprinkle the top with bread crumbs, and brown in oven.

153 ESCALLOPED BEETS

Wash and steam or cook some beets until tender (new beets will require about one and one-half hours, and old beets about six or more hours). Pare and slice them; put

a layer of the beets in the bottom of the pan, then a layer of potatoes, and another layer of beets. Then sprinkle each layer with salt, pour over it a thin cream sauce (No. 560), and brown in oven.

154 POTATOES WITH PEAS

Pare some potatoes, steam or boil until tender, put in a baking pan, baste with butter, and brown in oven; then pour over peas in cream. Salt potatoes while cooking. New potatoes are to be preferred when they are available.

155 NEW PEAS IN CREAM

Take fresh shelled peas, put in a sauce pan with just enough cold water to cover; cook one hour, or until tender.

They should be about dry, but not scorched, when done. Then cover with rich cream, cook a few minutes, salt to taste, and serve.

156 POTATOES AU GRATIN

Pare some potatoes, steam or boil until tender, put through a colander or potato ricer, and mix with a little hot cream and salt to taste; beat well, put in a baking pan, moisten top with cream, sprinkle with toasted bread crumbs, malted nuts, or cottage cheese, and brown a little in oven.

157 GLAZED POTATOES

Pare some potatoes, steam or boil until tender, salt while cooking; beat up three eggs very light, add a little butter and salt; roll the potatoes in this mixture; put in an oiled pan, dry off in the oven, baste with butter or oil, and brown in a hot oven fifteen minutes.

158 POTATO PUFFS

Pare six potatoes, steam or boil until tender, put them through a ricer; stir in hot cream till quite soft and smooth, add two well-beaten eggs, and beat until very light. Put in a baking pan, and brown in a very hot oven, or put in spoonfuls if preferred. If it is desired to have them fancy, put in a pan through a pastry bag and tube.

159 POTATOES A LA DELMONICO

Pare and slice potatoes, soak in ice water one hour; put in a pan and cover with cream or milk, add salt and a little celery salt, then put in a hot oven and bake one and one-fourth hours. Fifteen minutes before serving, sprinkle top with butter and put back in oven to brown.

160 ESCALLOPED POTATOES

Pare and slice potatoes, put a layer in the bottom of a baking dish, sprinkle with a little flour and salt, then another layer of potatoes and salt, and cover nearly over with milk. Cook in the oven until tender, or about one and one-fourth hours. A few minutes before the potatoes are done, sprinkle top with butter. Tapioca may be used instead of flour, if preferred. To prevent the milk from curdling, it is best not to add the salt until the potatoes are nearly done.

161 POTATOES IN JACKETS

Wash some nice potatoes, steam or boil until tender, and serve at once. Salt when nearly done cooking, put just enough water over the potatoes when boiling so that they will be dry and mealy when done.

162 POTATO SCALLOPS

Have ready buttered ramekin dishes, custard cups, or paper cases; fill with hot mashed potatoes which have been beaten well with melted butter; add salt and milk or cream; beat well for a few minutes, then fill the dishes with the mixture, stamp a pattern or crease with a knife on top of each one; dot with butter and brown in the oven. Serve while hot on a small plate covered with a doily or napkin.

163 POTATO SOUFFLE

Prepare and bake large, smooth potatoes until well done. Cut off a small portion from the thick end, and remove all the inside without breaking any of the skin. Season the pulp with salt, a little butter, and a little cream, one egg, the yolk and white beaten separately. Add the yolk to the potatoes; beat till very light. Now add the well-beaten white, refill the skins with the seasoned potato well above the top. Put them in the oven to reheat until a golden brown. Stand the potato in a vegetable dish with the cut end uppermost, and serve hot.

164 NUT FRENCH POTATOES

2 qts. potatoes

3 tsp. white flour

2 tbsp. nut butter

1 onion

Sprinkle the bottom of a pan with the onion, chopped fine, then fill the pan with the potatoes, cut into strips lengthwise as for French fried potatoes. Emulsify the nut butter in half the water, heat to boiling, and cook a few minutes until thickened; put butter in a sauce pan to melt, and stir in the flour and water; stir until smooth, then salt. Pour over the potatoes, and bake in a slow oven about two hours, or until well done. A half cupful of tomato juice may be added, if desired.

165 HASHED BROWN POTATOES

Use cold boiled potatoes or good left over baked potatoes. Pare and cut into half-inch dice, or chop medium fine. Fresh cooked potatoes may also be used, if preferred, and about half mashed. Oil a shallow baking pan, salt the potatoes to taste, and put in the pan; put in a hot oven to brown, stirring or turning them over occasionally until nicely browned. A little butter may be poured over the potatoes before browning, if desired.

166 MASHED POTATOES

Pare some potatoes, steam or boil until tender; put them through a colander or potato ricer, mix with a little hot cream or milk (if milk is used, add a little butter); salt to taste, and beat until very light and white. If the potatoes are boiled, be sure to have just enough water to cook them in and almost dry without burning, which will make them dry and mealy.

167 POTATO CROQUETTES

2 cups diced potatoes	2 tbsp. butter
1 egg yolk	1 tsp. celery salt
$\frac{1}{2}$ tsp. chopped parsley	$\frac{1}{4}$ tsp. onion juice

Mix well together, salt to taste, form into croquettes, put in an oiled pan, moisten the top with cream or butter, and bake in a moderate oven twenty-five minutes. Serve with brown gravy (No. 543).

168 POTATOES IN SURPRISE

Make potato croquette mixture (No. 167), omitting the parsley. Shape in small nests and fill with peas; cover nests with croquette mixture, then roll in form of cro-

quettes. Dip in crumbs, egg, and crumbs again; put in an oiled pan, spread top with butter or cream, and brown in the oven.

169 CREAMED POTATOES

Pare and cut some potatoes into half-inch dice; cook or steam until tender. When done, put them in a dish and cover with a rich cream sauce (No. 560), salt to taste, and serve at once.

170 BAKED POTATOES

Choose nice, smooth potatoes of uniform size; wash and scrub with a brush until perfectly clean, dry with a cloth, cut off the ends, and bake in a moderately hot oven for about one hour and a quarter, or until they yield to pressure between the fingers. They are better turned about occasionally, in order to bake nice all around and have them all done at the same time. In a slow oven the skins become hard and thick, and much of the most nutritious portion is wasted. When done, pierce with a fork, which will allow the steam to escape and prevent the potatoes from becoming soggy. Cover with a coarse cloth, or fold in a napkin, and serve at once.

171 CREAMED CAULIFLOWER

Cut the cauliflower into small pieces, wash clean, and soak in cold salt water for one hour. Parboil, then put on to cook in hot water, and cook for twenty minutes after it has come to a boil; take off the fire as soon as tender, to keep from discoloring; salt when nearly done; drain and put over it a thin cream sauce (No. 560), and serve at once.

172 BAKED PARSNIPS

Pare parsnips, cut lengthwise in two, or quarter, steam or boil until tender, salt while cooking; when nearly done, place in an oiled tin, then spread with butter or cream sauce (No. 560), and brown in a hot oven.

173 CABBAGE WITH LEMON

Chop cabbage (not very fine), boil until tender, season with butter, lemon juice, and salt to taste. Soak one hour in cold salted water before cooking.

174 FRESH STRING BEANS

Cut the beans into pieces about one inch long, being careful to get off all the strings; wash thoroughly, put on in cold water, and cook five minutes after coming to a boil; drain and put to cook in boiling water until tender; then salt to taste, add a little butter, cook a few minutes longer, and serve. Very good seasoned with cream, or cream sauce (No. 560) may be added if preferred.

175 BAKED SQUASH

Cut the squash into small pieces, take out the seeds, wash clean, and place in a baking pan; bake until nearly done, spread with butter, salt, and a little sugar if desired, and finish baking. Time, about one hour.

176 ESCALLOPED TOMATOES

1 pt. strained tomatoes	1½ cups bread crumbs
1 cup sweet cream	or granola

Mix tomatoes and bread crumbs, then add the cream and salt to taste. Mix well together, and bake for twenty minutes. Tomatoes may be sliced, put in layers with bread crumbs, and baked.

177 PEAS PATTIES

1 pt. peas pulp 1 egg
 $\frac{1}{4}$ cup cream 1 pt. granose flakes
 $\frac{1}{2}$ cup nut meal or bread crumbs

Mix well together, salt to taste; form into small, round patties, put in an oiled pan, moisten the top with cream, and bake a nice brown. Serve with tomato sauce (No. 545), and garnish with parsley.

178 FRENCH CARROTS

Peel or scrape the carrots, cook until tender; mash or put them through a colander, and season with salt and butter or cooking oil. Serve with a rich parsley sauce (No. 537). They may also be served whole or sliced with the above sauce.

179 PEA AND CELERY CROQUETTES

1 cup peas 1 egg
 $\frac{2}{3}$ cup chopped celery Bread crumbs to thicken
Sage and salt to taste

Put peas through a colander, add bread crumbs, egg, and celery; season to taste, form into croquettes, roll in beaten egg, then in bread crumbs, and bake until slightly browned. Serve with brown onion gravy (No. 546), and garnish with parsley or water-cress.

180 CORN PATTIES

1 qt. corn $\frac{1}{2}$ cup bread crumbs
1 egg 3 tbs. gluten meal

Put the corn through a colander, mix well together, salt to taste, form into patties or round balls, place in an oiled pan, and bake until a nice brown. Serve with nut

tomato gravy (No. 538), and garnish with parsley or water-cress.

181 CORN PULP

Take stewed corn, put through a colander to remove the hulls; then put in a stew pan and heat to boiling, being careful not to scorch it. A double boiler is best, if one has not time to watch it closely. Season with butter and salt to taste.

182 BEET GREENS

Wash young, tender beet tops, cleaning thoroughly; drain and parboil them; put on in hot water and cook until tender, drain, chop quite fine, season with butter, and salt to taste. Add lemon juice if preferred, or a little cream may be added. The small beets may be cooked separately, then chopped fine and added to the greens.

183 PEAS PUREE

2 cups peas

1 tbsp. butter

1 tbsp. cream

Put the peas to cook in boiling water, cook until tender, then simmer slowly, cooking as dry as possible without scorching. Put through a colander to remove the hulls, heat thoroughly, season with butter and salt to taste, and add cream if desired.

184 BAKED CORNLET

Make same as corn pulp (No. 181), put in a baking pan, season with salt, sprinkle top with bits of butter, and bake in a medium hot oven thirty minutes.

¹⁸⁵ BREADED TOMATOES

1 qt. stewed tomatoes $\frac{2}{3}$ cup broken toast or
stale bread

Break the toast quite fine, and put in a pan, then add the tomatoes, salt to taste, sprinkle bits of butter over the top, and bake in the oven for about half an hour.

¹⁸⁶ MASHED TURNIPS

Pare some turnips, then they may be cut in two, or, if large, quartered, and cooked or steamed the same as mashed potatoes, keeping them as dry as possible. When done, strain and mash, or put through a colander; season with butter and salt. The addition of a little sugar will be an improvement. When the turnips are old and strong, a few potatoes may be cooked with them, which will be quite an improvement.

¹⁸⁷ STEWED PEAS

Take canned peas, or shell some fresh peas; put in a stew pan with enough cold water to cover them, and cook slowly for about an hour, or until tender. Add more water occasionally as it boils down. Season with butter, and salt to taste.

¹⁸⁸ ESCALLOPED TURNIPS

Make same as escalloped beets (No. 153).

¹⁸⁹ CREAMED PARSNIPS

Wash and peel the parsnips, slice them about half an inch thick; if very large, quarter them first; put in a sauce pan and parboil, then put on the stove with just enough water to cover; stew until tender and the water has nearly

cooked away. Make a rich cream sauce (No. 560) and pour over them. Salt just before serving.

¹⁹⁰ BAKED CORN

1 pt. stewed corn 1 tbsp. butter, milk or
water

Put the corn into a baking pan, season with salt, add milk or water to moisten, put the butter over the top in bits, and bake in a moderately hot oven for about a half hour.

¹⁹¹ BEET AND POTATO HASH

2 cups cold boiled beets 3 tbsp. butter
3 cups cold boiled potatoes 1 chopped onion

Chop the beets and potatoes fine, mix in all the onion, and salt to taste; put in an oiled pan, sprinkle the top with the butter, then put in the oven until thoroughly heated through and slightly browned. Serve while hot.

¹⁹² BAKED ONIONS

Prepare same as boiled onions (No. 193). Steaming is best, because it will not break the onions to pieces. When done, place them carefully in a baking pan, pour over each onion some thick cream sauce (No. 560), and bake in a hot oven until a nice brown.

¹⁹³ BOILED ONIONS

Take good white onions of medium size; peel and soak in cold water for one or two hours, then put on the stove in fresh cold water, let boil about five minutes after coming to a boil, drain, cover with boiling water; cook two or

three hours, or until tender; after beginning to boil, let them simmer, so as not to break them up. Half an hour before done, add salt and butter, or make thin gravy with butter and flour, using the liquid of the onions, or season with cream. The reason why they should be soaked and par-boiled is to remove the acrid oil or strong flavor of the onions, which is irritating to the stomach.

194 SLICED TOMATOES

Take good, ripe, round tomatoes that are perfectly fresh and tender. Peel them very thin with a sharp knife without scalding them. Slice and put in a cold place or on ice. Serve as a relish or vegetable.

195 BROILED TOMATOES

Wash some nice, ripe tomatoes, clean and cut in halves without peeling. Dust the cut sides with very fine bread crumbs and salt; set the halves in a wire broiler and cook with the skin side next to the heat. When done, set on a hot plate and brown in the oven. The tomatoes may be put in a pan and baked in a very hot oven from thirty to forty-five minutes after preparing for broiling, and be nearly as good, and it is a much easier way to cook them.

196 ESCALLOPED CORN

Put in a baking pan a layer of corn, then a thin layer of toasted bread crumbs (No. 723); keep on until the pan is filled; moisten each layer with milk, and salt to taste; then put bits of butter over the top and bake about half an hour.

197 BEAN PUREE

1 cup white beans	1 tbsp. butter
½ cup water or milk	1 tbsp. gluten meal or brown flour

Wash the beans and soak them over night in cold water, drain, put into boiling water, and cook until perfectly tender; then simmer slowly until the water is nearly evaporated. Put through a colander to remove the hulls; then melt the butter in a sauce pan, stir in the flour or gluten, and add water or milk; cook thoroughly, then add bean pulp, salt to taste, and serve hot.

198 FRENCH PEAS OR PEAS A LA FRANCAISE

Take canned or shelled fresh peas; the small French peas are best; put them in a stew pan with enough cold water to cover; add chopped onion and parsley, tied in a cloth; cook slowly about one hour, or until tender; season with butter, and salt to taste. Remove onions and parsley before serving. Bay leaves or thyme may be added instead of parsley, if the latter is not obtainable.

199 SAVORY BAKED PEAS

Take peas puree (No. 183). Strain in a little minced celery or celery salt, grated onion, sage, and salt to taste; if more moisture is needed, add a little tomato juice. Put in an oiled baking pan, bake in a hot oven until dry and nicely browned throughout.

200 BAKED CARROTS

Prepare same as baked parsnips (No. 172).

201 MASHED RUTABAGAS

Prepare and cook same as mashed turnips (No. 186), omitting the potatoes. Serve hot.

202 BAKED BEANS

Pick over a quart of the best navy beans, soak them over night in cold water, drain, put on to cook in hot water, and simmer gently until the skins begin to break. Season with salt or butter or cooking oil, then put in a bean pot or granite pan with plenty of water in a slow oven. Bake from twelve to twenty-four hours, or until they are of a reddish brown color; add more boiling water as it boils away.

203 SAVORY BAKED BEANS

Prepare and bake same as baked beans (No. 202); season with grated onion, a little chopped parsley or celery salt, a little sugar and tomato juice may be added, if preferred.

204 BOSTON BAKED BEANS

Prepare and bake same as baked beans (No. 202), with the addition of two tbs. tomato juice and one tsp. molasses. A few pieces of protose may be baked with the beans if obtainable.

205 SPANISH TOMATOES

3 small tomatoes	3 eggs
4 tbs. butter or cooking oil	½ tsp. grated onion

Melt butter or cooking oil in a sauce pan, add the onion and braize a few minutes, but do not scorch; add the

eggs slightly beaten, then add the tomatoes, peeled and cut in small pieces. Cook until the eggs are of a creamy consistency, constantly stirring and scraping from the bottom and sides of the dish. Serve hot on toast.

206 BOILED POTATOES

Pare very thin, and wash clean. Have potatoes as near one size as possible; cook in enough water to prevent burning, until a knife will easily pierce their center. Then add a cup of cold water to check the cooking on the outside, while the heat already in the potato will finish the cooking of the center; add salt, and when they again reach the boiling point, drain thoroughly; then place the kettle on the back of the stove. Let set a few minutes for the steam to escape, then cover with a cloth for about five minutes. Shake the kettle several times while drying to make them floury.

207 STEWED NAVY BEANS

Pick over some of the best white navy beans, wash clean, soak over night in cold water, drain, parboil, put on to cook in hot water and stew gently for about three hours, or until the beans are perfectly tender (be sure and do not let them cook too hard, so as to break into pieces). Add boiling water as it boils away. Season with butter and salt to taste. A little cream may be added, if preferred.

208 STEWED LIMA BEANS

Prepare and cook the same as stewed navy beans (No. 207).

209 STEWED KIDNEY BEANS

Prepare and cook the same as stewed navy beans (No. 207), but cook from three to five hours.

210 SPINACH

Look over some good spinach; reject all wilted and decayed leaves, wash thoroughly in three or four waters, and put on to cook in cold water. Cook five minutes after coming to a boil, drain, and put to cook in slightly salted, boiling water, and boil thirty minutes. When tender, drain in a colander, chop rather coarse, put in a dish, add butter, and salt to season. Serve with slices of lemon, or add the lemon juice before serving.

211 STEWED CORN

Take canned corn, put into a stew pan, add salt, butter, or cream, or little sugar if desired, and more water or milk to make the right consistency. Or select sweet corn just right for table use; run a sharp knife over each row lengthwise, then scrape off with the edge of a knife. This way the hulls will all stay on the cob. Put into a stew pan, add a little water, salt, butter, or cream, stew gently until thoroughly cooked. Stir frequently to prevent burning. Add cream or milk to make the right consistency.

212 RICED POTATOES

Prepare the potatoes the same as for mashed potatoes; put through a vegetable press into a hot dish, and serve at once. Salt while boiling. A little butter may be added just before putting through the ricer or vegetable press to season them.

213 SAVORY POTATOES

5 potatoes	Salt to taste
$\frac{1}{4}$ tsp. celery salt	Milk to cover
1 small onion	

Slice the potatoes in a baking dish in alternate layers with the onion sliced fine, season and cover with milk. Cover the dish and bake half an hour, then remove the cover and bake until the potatoes are soft and the top is brown.

214 ONION SOUFFLE

2 cups cooked onions	3 eggs
1 cup milk	1 tbsp. butter

Put the onions through a colander. Beat up the eggs, add the milk, butter, and onions. Then salt to taste and put in a baking dish, and bake in a moderate oven until custard is set.

215 STUFFED KOHL-RABI

6 kohlrabi	1 tbsp. grated onion
1 tbsp. chopped parsley	$\frac{1}{2}$ cup stale bread crumbs
2 tbsp. butter	$\frac{1}{4}$ cup cracker crumbs
$\frac{1}{4}$ cup mashed potatoes	Cream to moisten

Pare and cook the kohlrabi until tender, drain, cut out the center. Mix all together, fill the shells, and set in a very hot oven to brown the filling.

Serve with cream sauce.

216 CREAMED KOHL-RABI

Pare and cook until tender, then put over them a rich cream sauce (No. 560), and sprinkle with cracker crumbs, if desired.

217 MASHED PARSNIPS

Wash and peel the parsnips, cut in small pieces, and steam or cook until tender; mash or put through a colander or vegetable press.

Season with butter and salt to taste and serve while hot. A few mashed potatoes may be added, if preferred, and it changes the sweet flavor of the parsnips, to which some object.

If no potatoes are used, then it is best to parboil the parsnips.

218 MASHED CARROTS

Pare carrots, cut into small pieces, steam or cook until tender; then mash or put through a colander, season with butter and salt to taste. The flavor of the carrots will be much improved if a few potatoes are cooked and mashed with them.

219 NEW POTATOES IN CREAM

Wash and rub new potatoes with a coarse cloth or vegetable brush, or scrape with a knife; drop into boiling water and boil briskly until tender, but no more water or they will become soggy; or steam until tender, and put over them a rich cream sauce (No. 560), salt to taste, and serve at once.

The potatoes may also be cut with a spoon-shaped cutter or into any other fancy shapes as may be desired.

220 POTATOES A LA BECHAMEL

Cut cold boiled potatoes into thick slices, put them in a shallow baking pan or dish, and pour over them a sauce bechamel (No. 541), sprinkle with bread crumbs, and put in the oven a few minutes to brown.

221 PEAS IN CREAM

Take canned peas, put in a sauce pan with just enough cold water to cover; stew gently for one hour, or until tender, but not broken up. They should be about dry. Pour off the rest of the water, and cover with a rich cream; stew a few minutes, then salt to taste, and serve at once. A half tsp. sugar will improve them very much and will make them taste nearly like new peas.

222 POTATO CAKES, NO. 1

2 cups mashed potatoes	1 egg yolk
2 tbs. cream, if needed	Salt to taste

Form into small round cakes, baste with cream, and brown in the oven.

223 POTATO CAKES, NO. 2

Pare some potatoes, cook until tender; then mash or put through a colander, and mix with a little hot cream or milk; if milk is used, add a little butter, and salt to taste.

If preferred, an egg or two may be beaten up and added. Put out in large spoonfuls in an oiled tin and bake in a hot oven until a delicate brown.

224 BROWNEED POTATOES

Pare some potatoes, cook or steam until tender, salt while cooking. Place them in an oiled baking pan, then spread over the potatoes butter or a thick cream gravy, and put in a hot oven to brown.

225 BOILED POTATOES WITH GRAVY

Pare very thin, and wash clean; have them as nearly equal size as possible. Cook in boiling water enough to

cover; when nearly done, add the salt, which will prevent the potatoes from breaking up.

When done so that a knife will easily pierce their center, pour over them a sauce or gravy made by melting two tbsp. butter and stirring in one and a half tbsp. flour; stir until smooth, then add the water of the potatoes, about one quart; pour over the potatoes, cook a few minutes, and add more salt if needed.

226 BAKED TOMATOES

Select good, ripe tomatoes of uniform size; wash them clean, remove the stems with a sharp knife, then make a depression and put on a speck of butter; place in a baking dish, then sprinkle with salt. Put in a moderate oven and bake one hour. When baked, they should be nearly dry.

227 DELMONICO MASHED POTATOES

Pare and chop fine four good sized raw potatoes; season with a tsp. salt. Put them in a baking dish, cover with milk, and bake in a quick oven forty minutes.

228 ESCALLOPED CABBAGE

Wash and chop rather fine the required quantity of cabbage, boil until tender (it is best when parboiled); put in a baking pan a layer of the cabbage, then cover with a custard (three eggs to a quart of milk, and salt to taste). Put over this a layer of sliced bread or toasted bread crumbs and some custard, then another layer of cabbage, and cover with the rest of the custard; bake in the oven about twenty minutes, or until custard is set.

229 HOLLANDAISE POTATOES

Pare and dice potatoes into half-inch pieces, put in a baking pan; then mix with salt and sprinkle with chopped

parsley. Cover with protose broth (No. 649); put in the oven and cook until tender; baste occasionally, and sprinkle with butter to make a nice brown.

230 ROASTED POTATOES, NO. 2

Pare some potatoes, put into a baking pan, then cut some protose or nutfoda in small pieces and add to the potatoes; sprinkle with a little chopped onion, and salt to taste.

Cook in the oven until nearly done, then spread with butter, and cook until tender; baste occasionally to make them a nice brown.

231 STEWED CAULIFLOWER

Wash the cauliflower and cut into small pieces; soak for an hour in cold, salted water; then put in a stewing pan and almost cover with hot water.

Cook twenty minutes. Do not cook too long, or it will turn red. When nearly done, season with salt and a little butter.

A little milk may be added a little while before it is done, to give it a lighter color.

232 STEWED PARSNIPS

Wash and peel the parsnips, slice them about half an inch thick; if very large, quarter them first; put in a sauce pan and parboil, then put on the stove with just enough hot water to cover them; stew until tender and the water has nearly cooked away. Season with salt and butter, or milk gravy may be added if desired.

233 STEWED POTATOES

Pare and cut in half-inch cubes, then cook in boiling water enough to cover. After coming to a boil, simmer

slowly until tender; salt a few minutes before they are done; make a gravy as for boiled potatoes (No. 225), and pour over them, and serve at once.

234 STEWED TOMATOES

Take canned tomatoes, heat to boiling, and season with butter and salt to taste; or take nice ripe tomatoes, peel and cut into halves or quarters, then put in a stew kettle with the addition of a little hot water, and cook half an hour; season with butter or cocoanut butter and salt to taste.

235 BAKED EGG PLANT

Pare the egg plant and slice one-third inch thick, then soak in cold, salted water for three hours; dip in milk and egg beaten together, then roll in flour or bread crumbs. Put in oiled pan, and bake on top of the stove until it is a delicate brown on both sides, then finish in the oven until well done, and serve hot.

236 CREAMED CELERY

3 cups celery

1 cup white sauce

•Wash the celery and cut into small pieces and cook in boiling water until tender. Prepare white sauce; drain celery, add the sauce, season to taste and serve.

237 ITALIAN BEETS

6 medium-sized beets

3 cups of water

$\frac{1}{2}$ cup of butter

$\frac{1}{3}$ cup flour

$\frac{2}{3}$ cup lemon juice

$1\frac{1}{2}$ tsp. salt

Wash the beets and put into boiling water. Cook until soft and the skins will loosen from the beet. Then put into

cold water and remove the skin. Cut the beets into slices. Make a sauce of the remainder of the ingredients.

Mix the flour and three-fourths of the butter; stir in the hot water slowly, let cook five minutes and then add the salt, the remaining butter and lemon juice. Turn the beets into this sauce, let boil a few minutes and serve.

238 STUFFED TOMATOES

6 large tomatoes	2 tsp. salt
2 cups stale bread crumbs	2 tbsp. finely chopped
2 tbsp. cooking oil	onions

Cut off the blossom end of a firm ripe tomato and remove the inside portion. Prepare the dressing by placing the oil and onion in a pan and cook until a nice delicate brown. Then add the tomato pulp, which has been chopped fine, bread crumbs, and salt. Fill the tomato shell with the dressing, place in an oiled pan and bake in a moderate oven about one hour.

CHAPTER XIV

Pastry and Rich Desserts

The free use of pies and cakes, as they are commonly made, are, strictly speaking, very unwholesome, and the less we eat of them the better we are off. Cakes, pies, and puddings or other rich foods are poor building material.

These are usually composed of sugar, butter, eggs, milk, fruit, spices, acids, and sometimes nuts are added, without the least regard to their effect upon the body; and they are usually eaten at the close of a meal of meat and vegetables.

But this is not saying that all desserts need be unwholesome. The most wholesome and the most natural desserts are those prepared from fruits and grains, which, if prepared in a simple way, omitting the unwholesome ingredients, will leave no bad after-effects.

Desserts prepared with gelatine make another variety of simple, wholesome desserts, for which the vegetable gelatine is best. This makes a more tender jelly than animal gelatine, and has the advantage of being free from the diseases which are so common among animals.

239 CREAM RICE PUDDING

1 qt. milk	1 pt. cream
$\frac{3}{4}$ cup rice	Sugar to taste
Lemon or vanilla to flavor	

Heat milk and cream to boiling, put in the rice, and finish cooking in a double boiler until the rice is tender. Add sugar, flavor, and a pinch of salt; cook until thick-

ened, put in a pan, and brown in the oven.

Three eggs may be added, if preferred.

240 TAPIOCA CUSTARD

3½ cups milk	3 eggs
¼ cup tapioca	¼ tsp. vanilla
Sugar to taste	Pinch of salt

Soak tapioca in a cup of cold water over night; cook with the milk in a double boiler until transparent, pour over the well-beaten eggs, stirring all the time; add sugar, flavor, and salt; then put in a pan and set in another pan of hot water, and bake in the oven until custard is set.

241 CRANBERRY FOAM

1 cup cranberries	3 egg whites
1 cup sugar	

Scald the cranberries with boiling water, cover the dish, and let stand for five minutes; then drain and put on to cook in just enough boiling water to cover; when done, put through a fine colander, heat to boiling, add sugar, and cook eight minutes; then pour over the eggs, which have been beaten to a stiff froth.

242 LEMON FOAM

1 pt. boiling water	1 cup sugar
½ cup cornstarch	1¼ cups cream
3 egg yolks	3 tbsp. lemon juice

When water boils, thicken with cornstarch, add other ingredients, and a pinch of salt; cook until cornstarch is thoroughly cooked; now beat up the eggs, stir in the lemon juice, and add the rest, and cook a few minutes. By adding the lemon juice to the eggs, it will prevent curdling.

243 APRICOT TARTLETS

Roll out pastry dough very thin, cut with a round cutter any desirable size. In the center of one piece put a large spoonful of apricot jelly or marmalade; wet the edges of the dough and place another piece of dough on top, and press the edges down.

Put in the oven to bake; when nearly done, glaze with the white of one egg, sprinkle with powdered sugar, and finish baking.

244 RICE AND APPLE DESSERT

1 $\frac{2}{3}$ cups cooked rice	2 qts. stewed apples
Sugar to taste	Lemon flavor

Put in a dish in alternate layers, rice on top, and bake in oven thirty minutes. Serve with fruit or lemon sauce (No. 554).

245 CARAMEL CUSTARD

1 qt. milk	$\frac{3}{4}$ cup sugar
4 eggs	$\frac{1}{2}$ tsp. vanilla

Put sugar in a dish and heat until dissolved and brown; be sure to stir all the time to prevent the sugar from burning.

Have the milk boiling hot and pour over the sugar, stirring well all the time; then beat the eggs and stir in a portion of the mixture, beating well to prevent curdling.

Mix well together, add vanilla, put in a baking pan, then set in another pan of hot water, and bake in a moderate oven until custard is set. Serve when cold.

246 MILK CUSTARD

1 cup milk	1 egg
1 tbsp. sugar	$\frac{1}{4}$ tsp. vanilla

Heat milk to boiling, add beaten egg, sugar, vanilla, and a pinch of salt. Cook in a double boiler for fifteen minutes, or until it begins to thicken.

Set away to cool, then serve.

247 CRANBERRY FLUFF

5 egg whites	2 cups cranberries
2 cups sugar	2 cups water
2 tbsp. cornstarch	

Wash and then cook the cranberries in the water; put through a fine colander, then thicken with the cornstarch; add sugar, and cook ten minutes.

Pour over the stiffly beaten eggs, and beat well until cold.

248 FIG PUDDING

1 cup ground figs	1½ cups milk
2 tbsp. butter	2 eggs
1 cup sugar	2 cups toasted bread crumbs
½ tsp. vanilla	1 tsp. nutmeg
¼ tsp. cinnamon	1 tbsp. molasses
2 tsp. soda	160 minims or
Pinch of salt	2 tsp. hydrochloric acid C. P.
1½ cups flour	

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Mix all together, then put in the hydrochloric acid and add the soda, which has been dissolved in a little cold water. Mix well and put in an oiled pan and bake thirty minutes. Serve with whipped cream or lemon sauce (No. 554). If baking powder is used, sift it with the flour and omit both the soda and hydrochloric acid.

249 DATE PUDDING

1 cup ground dates	2 eggs
1 cup milk	2 tbsp. butter
$\frac{1}{2}$ cup stale bread crumbs	$\frac{1}{4}$ cup sugar
$\frac{1}{4}$ cup toasted bread crumb	$\frac{1}{2}$ tsp. nutmeg
1 tsp. lemon juice	1 tsp. soda
1 cup flour	Pinch of salt
$\frac{1}{2}$ tsp. vanilla	

80 minims or 1 tsp. hydrochloric acid C. P.

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Make the same as Fig Pudding (No. 248).

250 STRAWBERRY WHIP

$\frac{1}{2}$ cup sugar	1 egg white
1 cup fresh strawberries	

Clean and wash the strawberries, then mash them to a pulp; add sugar, and pour over the egg white, which has been beaten to a dry froth, and beat five minutes.

251 CABINET PUDDING NO. 1

Place seedless raisins and chopped citron in the bottom of a pudding dish, and line the dish with strips of stale cake; cover with jelly and repeat.

Moisten each layer of cake with lemon or orange sauce; a thin milk custard may be used instead of the lemon or orange sauce. Bake in the oven in a double baker until custard is set.

252 RICE AND SAGO PUDDING

1 pt. cream	$\frac{1}{4}$ cup sago
1 pt. milk	Pinch of salt
$\frac{1}{4}$ cup rice	Sugar to taste

Cook rice in milk in a double boiler until nearly done, then add sago and cook half an hour longer, or until sago is transparent and pudding is thick; add sugar and lemon flavor.

Put out in a baking pan and brown off in the oven.

253 LEMON WHIP

1½ pint boiling water	3 eggs
1 cup sugar	3 tbsp. lemon juice
4 tbsp. cornstarch	Pinch of salt

When water boils, thicken with the cornstarch and other ingredients. Add the salt to the cornstarch; cook until cornstarch is thoroughly cooked. Now beat in the egg yolks, and cook a few minutes; then pour over the well beaten egg whites.

254 BROWN BETTY

½ cup sugar	2 cups chopped apples
1 cup water	1 cup chopped raisins
2 tbsp. lemon juice	1 cup toasted bread crumbs

Fill the pudding dish with alternate layers of the fruit and bread crumbs (fruit first), finish with bread crumbs on top; pour over it the lemon juice and water; cover and bake in a moderate oven for one hour, or until the apples are well done; then remove the cover and brown slightly.

Serve with lemon sauce (No. 554). A little more sugar may be used, if the apples are sour.

255 CHOCOLATE RICE MERINGUE

2 cups milk	1 tbsp. grated chocolate
¼ cup rice	Pinch of salt
4 egg whites	½ tsp. vanilla
½ cup seeded raisins	½ cup sugar

Heat milk in a double boiler, put in rice, and cook until tender; add sugar, raisins, vanilla, and chocolate, which has been melted.

Fold in the beaten egg whites. Pour in a buttered baking pan, and bake fifteen minutes.

Cover with a meringue made of two egg whites and one tbsp. powdered sugar, and vanilla flavor, and brown in a moderate oven.

256 CREAM TAPIOCA PUDDING

½ cup tapioca	1 qt. milk
½ cup sugar	¼ cup shredded cocoanut
3 eggs	Vanilla or lemon flavor

Soak tapioca over night in a cup of cold water, cook with the milk in a double boiler until it is transparent; add sugar, cocoanut, pinch of salt, and the beaten egg yolks.

Mix well and flavor, then pour into a pan, and bake in the oven until custard is set.

Beat the whites to a stiff froth, add one-fourth cup sugar and flavor. Spread this over the top, sprinkle with cocoanut, and brown in a hot oven. Also very nice when the whites are folded in the pudding after the yolks are well cooked with it, instead of putting them on top.

257 GRAPE APPLE

Prepare same as cocoanut apple (No. 258), fill the cavities with sugar, and bake until nearly done, then pour

over and around the apples a grape sauce made by thickening grape juice with cornstarch and sweetening to taste. Return to the oven and finish baking.

258 COCOANUT APPLE

Pare and core nice apples, put in a pan, and fill the cavities with sugar; sprinkle a little sugar and a little lemon juice over the top; put a little water in the pan and bake; when done, sprinkle and fill the cavities with shredded cocoanut and put back in the oven until the cocoanut is slightly browned.

259 LEMON CUSTARD

1 qt. water	1½ cups sugar
6 tbsp. cornstarch	3 small lemons
3 eggs	Pinch of salt

Have water boiling, then add cornstarch, dissolved in a little cold water; cook five minutes, add sugar, lemon juice, salt, and the egg yolks; then cook fifteen minutes.

Set away to cool; beat up the egg whites and add 2 tbsp. sugar and lemon flavor; ice the custard and brown slightly in the oven.

Very nice in individual cups.

260 LEMON APPLE WITH WHIPPED ALMOND CREAM

Take good-sized tart apples, pare and core, fill the cavities with sugar, pour lemon juice over and around the apples. Add a little water before setting in the oven. Bake until well done, or until the apples begin to turn red; cool, pour whipped almond sauce over one side of the apples, and serve cold.

261 CREAM RICE CUSTARD

1 qt. milk	Sugar to taste
3 eggs	Pinch of salt
$\frac{1}{3}$ cup rice	Vanilla or lemon flavor

Heat the milk to boiling in a double boiler. Wash the rice well, then add to the milk, and cook until tender; then pour over the beaten eggs; add sugar and flavor.

Pour in a pudding dish, set in another pan of hot water and bake until the custard is set and a delicate brown.

262 CABINET PUDDING NO. 2

$\frac{1}{2}$ cup sugar	$\frac{1}{8}$ cup crisco
$\frac{3}{4}$ cup seeded raisins	2 tbsp. molasses
$\frac{1}{4}$ cup milk	$2\frac{1}{2}$ cups flour
$\frac{1}{4}$ cup cider or dark fruit	Rind of 1 lemon
jelly	1 tsp. nutmeg
$\frac{1}{2}$ tsp. cinnamon	80 minims or 1 tsp. hy-
$1\frac{1}{4}$ tsp. soda	drochloric acid C. P.
2 eggs	Pinch of salt

This amount of soda and hydrochloric acid is equivalent to five tsp. of baking powder.

Cream the crisco and sugar, add the molasses, boiled cider, grated lemon rind and the milk. Then add the hydrochloric acid and half of the flour, then add the soda which has been dissolved in a little cold water, and stir in the remainder of the flour. Mix well and put in an oiled pan and bake forty minutes. Serve with whipped cream.

If baking powder is used, sift it with the flour and omit one tsp. soda and the hydrochloric acid. It will still be necessary to add $\frac{1}{4}$ tsp. of soda to neutralize the acid of the cider and molasses.

263 PLUM PUDDING

1¼ cup cream	1 cup currants
1¼ cup dried cherries	½ cup cooking oil
2¼ cup flour	1 tsp. nutmeg
Grated rind of one orange	3 tsp. soda
1 tsp. lemon flavor	½ tsp. cinnamon
2½ cups of sugar	240 minims or 3 tsp. hydrochloric acid C. P.
2 cups stale bread crumbs	Pinch of salt
3 eggs	

This amount of soda and hydrochloric acid is equivalent to twelve tsp. baking powder.

Mix all together, then put in the hydrochloric acid and add the soda, which has been dissolved in a little cold water. Mix well and put in an oiled pan and bake thirty minutes. Serve with whipped cream or fruit sauce.

If baking powder is used, sift it with the flour and omit both the soda and hydrochloric acid.

264 COMPOTE OF APPLES

3 cups milk or water	¼ tsp. salt
½ cup rice	2 cups apple sauce
Sugar to taste	

Cook rice in the milk or water in a double boiler; when nearly done, add salt and sugar, and cook until tender; do not stir, so as not to break the rice.

Put a spoonful of rice on a sauce dish, make a depression in the center, and fill with a spoonful of the apple sauce, which has been sweetened to taste.

265 BAKED CUSTARD IN CUPS

1 qt. milk	¼ cup sugar
4 eggs	A little salt
⅓ tsp. lemon or vanilla flavor	

Beat up the eggs, add the milk and other ingredients, mix well, and put out in sherbet cups; then set in a pan of cold water and bake in a moderate oven until custard is set and nicely browned.

Beat one-fourth of the eggs separately and add whites last, which makes a meringue on top. Serve in cups.

Caramel custard (No. 245) may also be prepared in the same way, which is very nice for a change.

266 CHOCOLATE SOUFFLE

2 tbsp. flour	1 cup hot milk
2 tbsp. butter	1½ tbsp. grated chocolate
3 eggs	1 tsp. vanilla

Melt chocolate, stir in the milk, and prepare same as custard souffle (No. 291).

267 CREAM SAGO PUDDING

¾ cup sago	1½ qts. milk
⅓ cup shredded coconut	5 eggs
⅔ cup sugar	A little salt

Cook the sago in the milk in a double boiler until transparent, add sugar, coconut, and the beaten yolks and two whites of eggs, mix well, and flavor.

Pour into a pan and bake in the oven until custard is set; beat the whites to a stiff froth, add two tbsp. sugar and flavor to taste; spread this over the top, sprinkle with shredded coconut, and brown in a hot oven.

268 SAGO CUSTARD

3 cups milk	¼ tsp. vanilla
¼ cup sago	Sugar to taste
3 eggs	A small pinch of salt

Cook sago in the milk in a double boiler until transparent, then pour over the well-beaten eggs, stirring all the time; add sugar and flavor; put in a pan and set in another dish of water, and bake in the oven until custard is set.

269 QUINCE HONEY

Quince honey is a delicious and inexpensive sweet. Choose for this purpose only fully ripe and juicy quinces, then pare, core, and grate them.

To a cupful of the grated fruit allow three cupfuls of sugar and one of water. Boil the sugar and water until it spins a thread, add the grated quince, and continue boiling the mixture until it is as thick as honey.

Put into jars and seal while hot, then keep in a dark place.

270 CHOCOLATE BREAD PUDDING

4 eggs	1 cup sugar
$\frac{3}{4}$ cup grated chocolate	1 qt. boiling milk
$3\frac{1}{2}$ cups stale bread	Pinch of salt
crumbs	$\frac{1}{2}$ tsp. vanilla flavor

Soak the bread crumbs in the milk for half an hour. Melt the chocolate and mix in the sugar, salt, and beaten yolks of eggs; mix with the soaked bread crumbs, add the beaten whites and flavor; then pour in a pudding dish. Set in another pan of hot water, and bake in a moderate oven for three-fourths of an hour.

Serve hot with whipped cream or a thin custard (No. 534).

271 COMPOTE OF ORANGES

4 oranges	$\frac{1}{4}$ cup water
1 cup water	1 tbsp. sago
1 tsp. lemon juice	$\frac{1}{4}$ cup strawberry or raspberry juice

Pare the rinds very thin off the oranges. Cut the fruit across into halves, or slice and remove the white skin and seeds, and pile the oranges in a glass dish.

Boil the rind with the water, sugar, and sago until the syrup is clear; strain out the rinds, add lemon juice and berry juice to color.

Pour it over the fruit, set away to cool, then serve.

272 APPLE SNOW

2 apples	1 egg white
$\frac{1}{4}$ cup sugar	Vanilla or lemon flavor

Pare the apples, steam until tender, press through a colander, and add the sugar. Pour the hot apple sauce over the well-beaten egg white, and flavor to taste.

273 CHOCOLATE PUDDING

1 qt. milk	2 eggs
3 tbsp. grated chocolate	8 tbsp. cornstarch
1 cup sugar	Pinch of salt

Heat the milk to boiling; melt the chocolate and add to the milk, then stir in the cornstarch, which has been dissolved in cold milk or water; cook in a double boiler until thick and cornstarch is thoroughly cooked; add sugar, then stir in the eggs.

Put in molds and set away to cool. Serve with whipped cream.

274 STRAWBERRY TARTLETS

1 pt. sugar	$\frac{1}{3}$ cup apple or strawberry
1 cup water	juice
1 pt. fresh strawberries	

Put the sugar and water into a sauce pan and boil until it is reduced to a syrup, then take it off the fire and

mix it with the apple or strawberry juice, which has been boiled down.

Pick the stems off the strawberries and put them into the syrup.

Butter some patty pans and line them with a good short paste, fill with uncooked rice, and bake them. When the tartlets are cooked, turn the rice out; fill them with the strawberries and syrup, then put them in the oven for ten minutes. Spread a folded napkin on a hot dish, arrange the tartlets on it, and serve.

275 FRUIT TARTS

Make a good cream pie crust (No. 325), roll out about one-third of an inch thick, and cut with a cookie cutter, make several holes in half of them, then put in a pan and bake until done, but not very brown and hard.

Spread one of them with some good jelly, and place the one with the holes on top, pressing down so that the jelly will show through the openings; put on individual dishes and serve.

276 BAKED APPLE DUMPLINGS

Prepare the apples as for apple pie. Roll out some good rich pie paste and cut into pieces about four inches square, add a little butter and sugar, then fill with the apples, and press together with the fingers, leaving no openings; place in an oiled pan, sprinkle with a little flour and sugar and a little nutmeg if preferred; then cover with hot water to wash all the flour from the top, and bake in a moderately hot oven forty-five minutes.

Before the dumplings are done, the top should be moistened and a quantity of sugar sprinkled over them to glaze.

277 BOILED APPLE DUMPLINGS

Prepare the apples same as for baked apple dumplings (No. 276).

Drop them into a pot of boiling water, and cook from forty to fifty minutes, according to the size of the dumplings. Serve with a sauce made by melting butter and sugar together, and a little water and lemon flavor.

278 FRUIT DUMPLINGS

Roll out sufficient pastry crust to make eight dumplings, cut it into rounds four inches in diameter, fill each separately with different kinds of fruits; put on the top of each a little mixture made with a tablespoonful of sifted bread crumbs mixed with an egg, sweetened with sugar, and flavored with lemon rind; roll up to form balls or any shape desired, and drop in a kettle of boiling water and cook forty-five minutes.

When done, turn it out, pour over a nice fruit sauce (No. 549), and serve. These dumplings may also be baked instead of boiled.

279 FLOATING ISLAND

1 qt. milk
1 cup sugar
3 eggs

2 tbsp. cornstarch
 $\frac{1}{2}$ tsp. lemon or vanilla
Pinch of salt

Heat the milk to boiling in a double boiler; thicken with the cornstarch, rubbed smooth in a little of the cold milk; stir in the beaten egg yolks, salt to the eggs.

Cook a few minutes longer, then add sugar and flavor to taste.

Put out in a pan to cool, beat up the whites to a stiff froth, add one tablespoonful sugar to two eggs, flavor to taste, and spread on top of the pudding and serve.

Very nice served in individual dishes, a little egg white put on each order and a little speck of jelly in the center.

280 LEMON SNOW

1 pt. boiling water	$\frac{1}{2}$ cup cornstarch
1 cup sugar	$\frac{1}{3}$ cup lemon juice
$\frac{1}{4}$ cup cream	3 egg whites

When the water boils, thicken with the cornstarch, add the other ingredients and a pinch of salt, and cook until cornstarch is thoroughly cooked; then pour over the well-beaten whites.

281 APPLE OPEN TART

Place the quantity of apples to be used in a sauce pan after peeling, coring and slicing them, and add a little sugar and water, together with a small quantity of grated lemon rind.

Cook gently until the apples are quite tender, then put the mixture in a basin to cool. Cover a shallow pie tin lined with pie paste with the mixture to a depth of about half an inch; then place on top more of the paste, rolled out into strips, running from side to side to the edges of the crust.

Trim and bake in a moderate oven until done, which is known by the crust being easily separated from the dish. Turn out carefully onto another dish and serve.

282 COCONUT CREAM PUDDING

1 qt. milk	$\frac{1}{3}$ cup sugar
1 cup shredded cocoanut	2 eggs
8 tbsp. flour or 5 tbsp. cornstarch	

Put the coconut into the milk and cook in a double boiler for thirty minutes, strain through a cheesecloth or fine strainer to remove the cocoanut; put back on the stove; when boiling hot, thicken with the flour or cornstarch, and cook for twenty minutes; then add the beaten yolks and sugar (add a pinch of salt to the eggs).

Cook a few minutes longer, then pour out in a pudding dish. Beat up the whites of eggs stiff, add a tablespoonful of sugar and lemon flavor; spread on the pudding, and brown off in a hot oven.

Sprinkle the top with a little shredded coconut before browning, if preferred.

283 CHOCOLATE CREAM PUDDING

1 qt. milk	1 cup sugar
3 egg yolks	9 tbsp. flour
A little salt	$\frac{1}{2}$ tsp. vanilla flavor
3 tbsp. grated chocolate	

Heat the milk in a double boiler, then melt the chocolate and add to the milk, and thicken with the flour, rubbed smooth in a little of the cold milk.

Cook for thirty minutes, then stir in the beaten yolks, salt and sugar and flavor to taste. Cook until the flour is thoroughly cooked.

The whites of eggs may be used for meringue on top of the pudding, if preferred.

284 COCONUT RICE CUSTARD

1 qt. milk	2 cups sugar
3 eggs	1 cup shredded coconut /
$\frac{1}{4}$ cup rice or $1\frac{1}{2}$ cups boiled rice	

Cook the coconut in the milk in a double boiler for half an hour, drain, put the milk in a double boiler again; when hot, add the rice, which has been well washed.

Cook for one hour, then add the well-beaten eggs and sugar; put into a pudding dish, and set in a pan of hot water and bake until the custard is set.

285 ORANGE FLOAT

1 lemon	1 cup sugar
3 oranges	1 pt. cold water
4 tbsp. cornstarch	

Squeeze the juice of the lemon into the water; add the sugar and cornstarch, and boil until thick and cornstarch is thoroughly cooked, stirring constantly to prevent sticking to the bottom of dish.

Peel and slice the oranges, pour the mixture over them; spread the top with meringue, and set on ice until very cold.

286 SNOW PUDDING

2½ qts. milk	1 cup cornstarch
8 egg whites	¾ cup sugar
Lemon or vanilla flavor	

Heat the milk to boiling, stir in the cornstarch, which has been rubbed smooth in a little cold milk; finish cooking in a double boiler until cornstarch is thoroughly cooked.

Pour over the stiffly beaten egg whites, add a pinch of salt and flavor. It may also be served in cups with whipped cream.

287 CHOCOLATE LAYER PUDDING

No. 1

1 qt. milk	¾ cup sugar
1 d. sp. sea moss farina, or 8 tbsp. cornstarch	

Heat the milk to boiling, stir in the sea moss farina; cook one-half hour, add sugar, and strain through a cheese-

cloth; put in a pan and set away a few minutes to cool, but not until hard, so that the other layer will adhere to it.

No. 2

1 qt. milk	$\frac{2}{3}$ cup sugar
1 d. sp. sea moss farina, or 8 tbsp. cornstarch	
3 egg yolks	

Make the same as No. 1 and add to the first layer. Add a pinch of salt to the eggs.

No. 3

1 qt. milk	$\frac{3}{4}$ cup sugar
3 egg whites	2 tbsp. grated chocolate
1 d. sp. sea moss farina, or 8 tbsp. cornstarch	

Cook the same as No. 1. Melt the chocolate and stir in; when thoroughly cooked, pour over the well-beaten eggs, put on the second layer, and set away to cool. Serve with a thin custard (No. 534).

288 SNOWFLAKE PUDDING

1 qt. milk	2 eggs
$\frac{1}{2}$ cup cream of wheat	$\frac{1}{2}$ cup powdered sugar
Pinch of salt	

Let the milk come to a boil, then add the cream of wheat; sprinkle in slowly, stirring all the time. Add salt and allow this to cook a few minutes; then cook in a double boiler from two to three hours.

Then add the well-beaten whites of eggs, and pour in molds and set in a cool place. When time to serve, turn the pudding out in a dish and pour over it the yolks of the eggs and sugar, well beaten together.

289 CREAM OF WHEAT MOLD

1 qt. milk	$\frac{1}{2}$ cup cream of wheat
$\frac{1}{2}$ cup sugar	Lemon or vanilla flavor

Heat the milk to boiling in a double boiler, stir in the cream of wheat, and cook from two to four hours, stirring occasionally until the grains are set.

Add sugar and flavor, then put in molds, and set away to cool; turn out in a sauce dish, and serve with banana cream sauce (No. 550).

290 FARINA MOLD

1 qt. rich milk	Sugar to taste
$\frac{1}{2}$ cup farina	Pinch of salt
Lemon or vanilla flavor	

Heat milk to boiling in a double boiler, stir in farina, and cook from one to three hours; season to taste, then pour into cups that have been wet with cold water, and mold.

Serve with a thin custard or banana cream sauce (No. 550).

291 CUSTARD SOUFFLE

4 tbsp. flour	1 cup hot water
4 tbsp. butter	3 eggs
$\frac{1}{4}$ cup sugar	$\frac{1}{2}$ tsp. vanilla

Melt butter, add flour, and gradually pour in the hot milk, stirring well with a wire egg-beater; when well thickened, pour over the yolks of eggs, beaten until thick and lemon colored, and mix with sugar; cook ten minutes, being careful not to let it scorch.

Then fold in the whites, beaten stiff and dry; then add vanilla. Set away to cool, and serve.

292 APPLE WHIP

2 sour apples	2 egg whites
Lemon flavor	1 cup powdered sugar

Peel and grate the apples, and sprinkle over them the sugar as you grate them, to keep them from turning dark.

Beat the eggs to a stiff froth, then add slowly the grated apples, beating all the time. Add the rest of the sugar and flavor to taste, and beat five minutes longer, or until nice and stiff.

Heap this in a glass dish, pour around it a fine, smooth custard, and serve.

293 BANANA TAPIOCA PUDDING

$\frac{2}{3}$ cup tapioca	1 egg
1 qt. milk	4 bananas
$\frac{1}{2}$ cup sugar	Banana or lemon flavor

Heat the milk to boiling in a double boiler, then wash the tapioca in cold water and cook in the milk until transparent. Beat up the egg and stir in, then add sugar and flavor, and cook a few minutes.

Slice the bananas in a pudding dish, and pour over them the filling. Set away to cool, and serve plain or with sauce.

294 CHOCOLATE CUSTARD

1 pt. milk	3 tbsp. grated chocolate
1 cup sugar	$\frac{3}{4}$ tbsp. cornstarch
3 eggs	2 tsp. vanilla

Heat the milk in a double boiler, add the cornstarch, rubbed smooth in a little cold milk; let cook for ten minutes, then add the chocolate, which has been melted; mix well, and pour over the well-beaten eggs (add a little salt to the

eggs), then add vanilla flavor and sugar. Put out in a baking pan, and bake in moderate oven until cornstarch is set, or bake in a double boiler.

295 CREAM PUDDING

2 cups milk	7 tbsp. flour
$\frac{2}{3}$ cup sugar	$\frac{1}{4}$ tsp. vanilla flavor
2 eggs	Pinch of salt

Heat the milk in a double boiler, thicken with the flour, and cook until nearly done, then beat up the yolks, add sugar, and stir into the mixture.

Cook until thoroughly done, pour in a pan, and put the whites of eggs on top, and brown off a little in a quick oven.

296 COCONUT CREAM SOUFFLE

1 qt. milk	1 cup shredded coconut
$\frac{1}{3}$ cup sugar	2 eggs
1½ tbsp. cornstarch or 3 tbsp. flour	

Put the coconut in the milk and cook in a double boiler thirty minutes; strain through a fine strainer to remove the coconut, then put back on the stove; when boiling hot, thicken with the cornstarch or flour, and cook twenty minutes. Then add the beaten yolks and sugar (add a pinch of salt and part of the sugar to the eggs).

Cook a few minutes longer, then pour over the stiffly beaten egg whites and set away to cool.

297 APPLE COBBLER

Slice the apples, sweeten, and season with a little cinnamon and nutmeg. Cover with a rich pie crust and bake in a slow oven about thirty minutes.

298 APPLE TAPIOCA PUDDING

1 $\frac{1}{4}$ cups tapioca	1 cup sugar
4 $\frac{1}{2}$ cups water	Pinch of salt

Fill a pan with pared and cored apples; bake in oven until nearly done, then cover with the cooked tapioca; return to the oven, and bake until the apples are done.

Cook tapioca in a double boiler for one hour, or until transparent.

The apples may also be quartered or sliced instead of leaving them whole, if preferred. Flavor to taste.

299 PEACH A LA CONDE

1 cup rice	6 cups milk or cream
Sugar to taste	$\frac{1}{2}$ tsp. salt

Cook the rice with the milk in a double boiler until tender, add sugar and salt; then put out on individual dessert dishes (a spoonful on each dish), make a depression in the center, and put a half peach on it, rounded side up.

Then put the following dressing around the peach with a pastry bag and tube:—

Dressing

2 tbsp. water	$\frac{2}{3}$ cup sugar
3 egg whites	$\frac{3}{4}$ tsp. lemon juice
$\frac{1}{2}$ tsp. orange or lemon flavor	

Cook sugar and water to a syrup until it hardens when dropped in cold water, add lemon juice; then pour over the well-beaten whites of eggs; flavor and color a nice pink with fruit coloring, if desired.

It is also very good served with whipped cream,

300 BANANA CREAM PUDDING

1 qt. milk	Pinch of salt
9 tbsp. flour	3 eggs
$\frac{2}{3}$ cup sugar	3 bananas

Heat milk to boiling, add flour, rubbed smooth in a little of the cold milk, and cook in a double boiler for thirty minutes; then add sugar, salt, banana flavor, and the egg yolks, and cook until thoroughly done.

Slice the bananas in the bottom of a baking dish, then put in the filling, and set away to cool.

Now beat up the whites of the eggs and stir in two tbsp. of powdered sugar; spread on top of the pudding, and brown off in a quick oven.

301 CORNSTARCH PUDDING

1 qt. milk	Sugar to taste
7 tbsp. cornstarch	$\frac{1}{2}$ tsp. vanilla or lemon
1 cup raisins or currants	Pinch of salt

Heat the milk in a double boiler, then add the cornstarch (rubbed smooth in a little of the cold milk); cook until thoroughly cooked, then stir in the raisins or currants, sugar, and salt.

Flavor to taste and serve hot.

302 SURPRISE CUSTARD

No. 1

1 qt. milk	$\frac{2}{3}$ cup sugar
$\frac{1}{4}$ tsp. vanilla	Pinch of salt
1 d. sp. sea moss farina, or 5 tbsp. cornstarch	

Heat the milk in a double boiler, add the sea moss farina or cornstarch; cook for half an hour, stirring occa-

sionally; add sugar, salt and flavor. If sea moss farina is used, strain through a cheesecloth, put in a pan and set away to cool while making the custard.

No. 2

- | | |
|---|---------------------------------|
| 1 qt. milk | $\frac{1}{4}$ tsp. lemon flavor |
| 3 egg yolks | Pinch of salt |
| $\frac{3}{4}$ cup sugar | |
| 1 d. sp. sea moss farina, or $\frac{2}{3}$ cup cornstarch | |

Make the same as No. 1, with the addition of the eggs. Beat up the eggs well and add slowly, stirring well, then cook about fifteen minutes longer.

Pour this over No. 1, and set away to cool. The whites may be used for meringue on top of the custard, or it may be served with a thin milk custard (No. 246).

A pink layer may be added to the above, which will make it very nice.

303 PINEAPPLE SNOW

- | | |
|--------------------|---------------------------|
| 2 small pineapples | 2 d. sp. lemon juice |
| 6 egg whites | $1\frac{1}{2}$ cups water |
| 3 tbsp. cornstarch | $1\frac{1}{2}$ cups sugar |

Grate the pineapples, then boil together with the lemon juice, sugar, and water; thicken with the cornstarch, then pour over the well-beaten egg whites.

Put in a pan and set away to cool.

304 ORANGE TAPIOCA PUDDING

- | | |
|-----------------------------|---------------|
| $1\frac{1}{4}$ cups tapioca | 1 cup sugar |
| $4\frac{1}{2}$ cups water | Pinch of salt |
| Sliced oranges | |

Cook tapioca in double boiler for one and a half hours, or soak over night in half of the water and cook until trans-

parent; put in layers with sliced oranges, tapioca on top.

Set away to cool, and serve with lemon or orange sauce (No. 530).

305 COTTAGE PUDDING

6 eggs	1 cup sugar
4 tbsp. hot water	2 cups flour
$\frac{1}{4}$ tsp. lemon flavor	Pinch of salt

Beat the eggs five minutes, add hot water, and beat five minutes longer; then add sugar, salt, and flavor; then fold in the flour. Put in a pan lined with paper and oiled, and bake in a medium hot oven from twenty to forty minutes.

Serve with lemon sauce (No. 554).

If preferred, the recipe for Cream Cake (No. 372) may be used.

306 ORANGE CREAM

$\frac{2}{3}$ cup orange juice	$1\frac{1}{2}$ cups water
2 tbsp. lemon juice	1 cup sugar
2 tbsp. cornstarch	3 egg whites

Heat the water to boiling, thicken with cornstarch, rubbed smooth in a little cold water. Add the juice and sugar, and cook a few minutes; then pour over the well-beaten whites, and set away to cool.

307 LEMON CREAM

$\frac{1}{2}$ cup lemon juice	$1\frac{1}{2}$ cups water
2 tbsp. cornstarch	1 cup sugar
3 egg whites	A few drops lemon flavor

Heat the water to boiling, thicken with cornstarch, rubbed smooth in a little cold water. Add juice and sugar, and cook a few minutes; then pour over the well-beaten whites, and set away to cool.

308 PEACH TAPIOCA PUDDING

1¼ cups tapioca	1 cup sugar
4½ cups water	Pinch of salt
Flavor to taste	

Cook tapioca in the water in a double boiler for one and a half hours, or until transparent; add sugar and flavor. Then put in layers with peaches that have been quartered and cooked, one layer of peaches in a pan, then a layer of tapioca. Set away to cool, and serve with lemon or orange sauce (No. 530).

309 LEMON SOUFFLE

1½ cups sugar	Grated rind of 1 lemon
8 tbsp. cornstarch	8 tbsp. lemon juice
1 qt. milk or water	4 eggs

Heat the milk or water to boiling, thicken with cornstarch, rubbed smooth in a little cold water. Cook a few minutes, being careful not to let it burn; then add the yolks and cook a few minutes longer. Then pour over the well-beaten whites, and set away to cool.

Add the lemon juice to the yolks before cooking to prevent curdling the milk.

310 ORANGE SOUFFLE

3 cups water	1 tbsp. lemon juice
1½ cups orange juice	8 tbsp. cornstarch
1 cup sugar	4 eggs
Rind of 1 orange, grated	

Heat the water to boiling, thicken with cornstarch, rubbed smooth in a little cold water. Add the juice and grated rind, and cook a few minutes, being careful not to let it burn; then add the yolks, and cook a few minutes

longer. Then pour over the well-beaten whites, and set away to cool.

311 LEMON CREAM PUDDING

2 cups milk	Juice of 1 lemon
$\frac{2}{3}$ cup sugar	Rind of 1 lemon
2 eggs	Pinch of salt
7 tbsp. flour	

Heat the milk in a double boiler and stir in the flour; cook until nearly done, then beat the yolks, add lemon juice and sugar, and stir into the mixture.

Cook until thoroughly done, pour in a pan; then put whites of eggs on top of the pudding, and brown off a little in a quick oven.

312 LEMON PUDDING

1 qt. water	2 lemons
$\frac{3}{4}$ cup sugar	Grated rind of 1 lemon
4 eggs	Pinch of salt
1 cup flour or $\frac{1}{2}$ cup cornstarch	

Heat the water to boiling, then add flour or cornstarch, rubbed smooth in a little cold water; cook until nearly done, then beat up the eggs, add lemon juice and salt, and stir into the mixture.

Cook until thoroughly done, pour into a pudding dish, and set away to cool.

313 ROYAL PUDDING

Pare and core medium sized apples (have them as near the same size as possible), put them in a baking pan; fill the cavity where the core was taken from with ground raisins, sprinkle with sugar and grated lemon rind; put a

little water in the bottom of the pan; bake in the oven until done, but not broken up.

Make a cake batter as for sponge cake (No. 360), and pour a thin layer of it over the apples when they are baked; put back in the oven and bake until the cake is done.

Serve with lemon sauce (No. 554).

CHAPTER XV

Desserts with Gelatine

314 FRUIT JELLY

1 qt. fruit juice	1 pt. hot water
1 $\frac{1}{3}$ cups sugar	$\frac{1}{2}$ oz. vegetable gelatine

Soak gelatine one to three hours or longer in hot water (about 120° F.), drain off the water and cook in the pint of hot water eight or ten minutes, or until perfectly clear; strain through a cheesecloth or a fine strainer, and add to the fruit juice.

Mix well and dish out in sherbet cups, previously wet in cold water, and set away to cool. Serve plain or with lemon sauce (No. 554).

315 ORANGE JELLY

2 $\frac{2}{3}$ cups orange juice	2 cups hot water
1 $\frac{1}{3}$ cups lemon juice	2 cups sugar
$\frac{1}{2}$ oz. vegetable gelatine	

Make the same as fruit jelly (No. 314), using orange and lemon juice.

316 STRAWBERRY JELLY

1 qt. strawberry juice	1 tsp. lemon juice
2 cups hot water	Sugar to taste
$\frac{1}{2}$ oz. vegetable gelatine	

Make the same as fruit jelly (No. 314), using strawberry juice. Serve with lemon sauce (No. 554).

317 LEMON JELLY

1¼ cups lemon juice	1¼ cups boiling water
2 cups sugar	1¼ cups cold water
⅓ oz. vegetable gelatine	

Prepare the same as for fruit jelly (No. 314), strain through a cheesecloth or fine strainer, and add to the juice, which has been added to cold water and sugar; fill sherbet cups, which have been wet in cold water, and set away to cool.

Serve with lemon or fruit sauce (No. 553).

318 STRAWBERRY AND LEMON JELLY

1¼ cups lemon juice	2 cups water
1¼ cups boiling water	1¼ cups cold water
⅓ oz. vegetable gelatine	

Prepare the same as for fruit jelly (No. 314), strain through a cheesecloth or fine strainer, and add to the juice, which has been added to the sugar and water; fill sherbet cups about half full, and set away to cool.

Strawberry

Make the same as above, only add strawberry juice instead of lemon, and half as much sugar.

Fill the cups with this after it is firm enough to adhere without mixing, but do not wait until it is too hard, or it will not adhere to the other layer.

When firm, turn out on a sauce dish, and serve with hard sauce or whipped cream or apple whip (No. 292).

319 FRUIT MOLD

1 qt. fruit juice of any kind	1 pt. hot water
	3 bananas
1½ cups sugar	½ oz. vegetable gelatine

Prepare the same as for fruit jelly (No. 314), then line moulds or sherbet cups with thin-sliced bananas, and pour into them the jelly.

Set away to cool until serving time; turn out into sauce dishes, and serve with lemon or orange sauce (No. 530).

Other fruits may be substituted for the bananas, such as cherries, pineapples, strawberries, and raspberries or oranges.

320 NEAPOLITAN PUDDING

2½ cups lemon juice	¾ cup sugar
1½ cups orange juice	4 egg whites
2 cups water	1 oz. vegetable gelatine

Soak the vegetable gelatine in hot water from one to three hours, drain off, and cook in the water for about ten minutes, or until the gelatine is dissolved; strain through a cheesecloth and add to the juice, then add the sugar, and mix well.

Pour this over the stiffly beaten egg whites; before putting in cups, take two or three strawberries or any other kind of fruit and drop in each cup.

Serve with fruit or meltose sauce (No. 558).

321 MARSHMALLOW PUDDING

1 pt. raspberry juice	1 cup hot water
1 cup pineapple juice	1 cup pineapple pulp
½ cup chopped English walnuts	4 egg whites
	Sugar to taste
½ oz. vegetable gelatine	

Prepare the same as for fruit jelly (No. 314), strain through a cheesecloth or fine strainer, and add half of it to the raspberry juice, and the other half to the pineapples, and sweeten to taste. When the raspberry juice begins to harden, pour over two well-beaten egg whites, and put out

in a pan. Pour the pineapple mixture over the other beaten egg whites, and when it begins to harden, beat in the chopped nuts. Then pour this over the first layer before it is too hard, or it will not adhere to it.

322 MARSHMALLOW CREAM

$\frac{1}{4}$ oz. vegetable gelatine $\frac{1}{2}$ cup water
 $\frac{1}{4}$ cup corn syrup 1 cup sugar
2 egg whites

Cook the gelatine as directed in recipe No. 314, add syrup and sugar, and boil five minutes; stir constantly to avoid discoloring the syrup. Pour in a fine stream on the egg whites, beaten dry; beat until cool.

CHAPTER XVI.

Frozen Desserts

Frozen desserts, such as fruit gelee, sherbet, and fruit ice, are refreshing in warm weather, and will do no harm if eaten in moderation and slowly, allowing them to melt in the mouth.

323 FRUIT GELEE

1 cup pineapple juice	$\frac{2}{3}$ cup sugar
1 cup orange juice	1 tbsp. lemon juice
$1\frac{1}{4}$ cups water	1 egg white
$\frac{1}{8}$ oz. vegetable gelatine or $\frac{2}{3}$ tsp. cornstarch	

Soak the vegetable gelatine three hours in hot water (not boiling), then put in a colander or strainer and drain well; cook in one cup of hot water until dissolved (about ten minutes), and strain through a cheesecloth.

Mix fruit juice, sugar, and water together; have it ready when gelatine is cooked, then mix thoroughly together.

Put in a freezer and freeze until nearly done, then stir in the beaten egg white and freeze until stiff.

If cornstarch is used, heat fruit juice to boiling before adding cornstarch, and cook until thoroughly done, then cool off again before freezing.

Any other fruit juice may be used, if preferred.

Stir very fast the last five minutes, to give it a velvety texture.

324 FROZEN MALTED NUTS

1 cup malted nuts

1¼ pts. boiling water

Boil the malted nuts and water five minutes, and set aside to cool. Then put in the freezer and freeze until very stiff. Two egg whites, well beaten, may be added when half frozen, and also the yolks, if desired. Malted milk can be used in the same way.

CHAPTER XVII

Pies

325 CREAM PIE CRUST

$\frac{1}{2}$ cup butter
1 cup cream

2 cups flour
 $\frac{1}{3}$ tsp. salt

Sift the flour and carefully work into it the butter and salt; rub with the hands until perfectly smooth; moisten with the cream, handling as little as possible and without kneading.

Take sufficient for one crust, roll out on a floured board, quickly and lightly, about an eighth of an inch in thickness, and a little larger than the pie tin; flour or butter the pie tin, cover with the crust, trim away the overhanging portions, and press the edges into an ornamental wall with the thumb and fingers.

If a top crust is used, roll it out in the same manner, and make a few ornamental cuts in the center, to allow the steam to escape. Wet the edges of the lower crust, put on the upper crust, and press the edges together, so that the juice may not escape.

326 PLAIN PIE CRUST

1 cup butter
 $\frac{1}{2}$ cup cold water

2 cups flour
 $\frac{1}{4}$ tsp. salt

Make the same as cream pie crust (No. 325), using water instead of cream. Cooking oil may be used instead of butter, but use one-third less.

327 NUTMEAL PIE CRUST

1 cup flour	$\frac{2}{3}$ cup peanut meal
$\frac{1}{3}$ cup cream	$\frac{1}{4}$ tsp. salt

Sift the flour, mix thoroughly with the salt and nut-meal; rub with the hands until perfectly smooth, moisten with the cream, handling as little as possible and without kneading.

Roll out and finish the same as cream pie crust (No. 325).

328 GRANOLA PIE CRUST

$\frac{2}{3}$ cup cream	$\frac{2}{3}$ cup granola
	1 pinch of salt

Mix all together, let stand a few minutes; then place in the center of a pie tin, spread it evenly and thinly over the bottom and around the sides of the tin.

Press the edges into an ornamental wall with the thumb and fingers; this should be done quickly, before the granola becomes dry.

329 BEATEN OIL PIE CRUST

1 cup flour	Pinch of salt
4 tbsp. vegetable oil or mazola	3 tbsp. cold water

Put the oil in a small bowl and add the water in a slow stream, beating constantly to emulsify the oil and add salt. Pour slowly onto the flour and mix lightly with a fork or spoon to a soft dough and roll out the same as plain pie crust.

330 DATE CREAM PIE

2 cups dates	3 eggs
2½ cups milk	2 tsp. cornstarch
A little salt	

Seed the dates and stew until tender and dry, then rub through a colander; mix all together and put through a fine colander, to make it smooth; beat half of the eggs separately, and add whites last; stir well, fill a pie tin, and bake in a moderate oven until custard is set.

331 CUSTARD PIE

2½ cups cream or milk	1 tbsp. sugar
4 eggs	Pinch of salt
Vanilla or lemon flavor	

Mix all well together; beat one-third of the eggs separately, and add the whites last; then put in a pie tin and bake in a moderate oven until custard is set.

332 BANANA CUSTARD PIE

1 qt. milk	½ cup sugar
3 eggs	6 tbsp. cornstarch
A little salt	

Beat the eggs, add milk, sugar, and cornstarch (rubbed smooth in a little cold milk); mix thoroughly, then make a pie crust and put in a thin layer of sliced bananas, add the filling, and bake until custard is set and a little brown.

333 BANANA CREAM PIE

1 qt. milk	¾ cup sugar
2 bananas	4 egg yolks
Banana flavor	A little salt
⅔ cup flour or ⅓ cup cornstarch	

Heat the milk to boiling, add flour or cornstarch, and cook in a double boiler thirty minutes; then add sugar, salt, flavor, and the egg yolks, and cook until thoroughly done.

Slice bananas in a previously baked pie crust, then put in filling and set away to cool. Now beat up the whites and stir in two tbsp. sugar, spread on top of the pie, and brown off in a quick oven.

334 LEMON PIE

2 cups water	Grated rind of $\frac{1}{2}$ lemon
1 cup sugar	Juice of 1 lemon
4 tbsp. cornstarch	1 tbsp. butter
2 eggs	A little salt

Make the filling the same as for orange pie (No. 354), and put in a previously baked pie crust, and put whites on top, then brown in a quick oven.

335 CREAM RAISIN PIE

1 qt. rich milk	$\frac{1}{2}$ cup seedless raisins
$\frac{2}{3}$ cup flour	$\frac{3}{4}$ cup sugar
4 eggs	A little salt
$\frac{1}{2}$ tsp. vanilla flavor	

Heat the milk to boiling, put in a double boiler, and add flour, which has been rubbed smooth in a little cold water or milk.

When nearly done, add sugar, salt, and egg yolks; cook until thoroughly done, then stir in the raisins. Fill in a previously baked pie crust, and set away to cool.

Beat up the whites to a stiff froth, stir in some sugar and vanilla flavor, and put on top of the pies, then brown off in a quick oven.

336 SWEET POTATO PIE

1 cup mashed sweet potatoes	2 cups milk
$\frac{1}{4}$ tsp. grated lemon rind	$\frac{1}{3}$ cup sugar
2 small eggs	Pinch of salt
	Nutmeg or vanilla flavor

Mix the milk, potatoes, and sugar together, flavor, then stir in the eggs; separate half of the eggs and add the well-beaten whites last. Put through a fine colander, so as to remove all lumps, then put in a pie tin and bake until the custard is set and a delicate brown.

337 PINEAPPLE PIE, NO. 1

1 cup pineapple juice	1 cup water
1 qt. pineapple pulp	Juice of 1 lemon
$\frac{2}{3}$ cup sugar	3 tbsp. cornstarch

Mix all together, heat to boiling, then add cornstarch, and cook in a double boiler for forty minutes.

Pour in a previously baked pie crust, beat up the whites of two eggs, add two tbsp. sugar, and spread on the pie and set in oven a few minutes to brown.

338 CHERRY PIE

$1\frac{1}{4}$ cup cherry juice	1 cup sugar
1 cup cherries	3 tbsp. cornstarch or flour

Put juice, fruit, and sugar together in a stew pan, and bring to boiling; rub the cornstarch smooth in a little cold water, add to the boiling liquid, stirring rapidly; cook the cornstarch or flour thoroughly until liquid has a clear appearance. If flour is used, double the amount.

Put in a previously baked pie crust; beat the whites of two eggs to a stiff froth, and add two tbsp. of sugar, then spread on the pie and brown in a hot oven.

If preferred, it may be made with two crusts. Mix the sugar and flour together, add to the cherries, and add a little water; fill a pie tin with this, and put another crust on top, and bake until cherries are done.

339 CREAM PIE

1 pt. rich milk	6 tbsp. flour
2 eggs	3 tbsp. sugar
$\frac{1}{2}$ tsp. vanilla or lemon flavor	

Heat the milk to boiling, put in a double boiler, add flour rubbed smooth in a little cold milk, and cook one-half hour; beat the sugar, egg yolks, and a pinch of salt together and add, then cook a few minutes longer, and flavor.

Put in a previously baked pie crust and set away to cool. Beat up the whites, add $1\frac{1}{2}$ tbsp. sugar and flavor, then meringue the top of the pie and brown in a hot oven.

340 FRUIT MINCE PIE

1 cup chopped apples	$\frac{1}{4}$ cup currants
$\frac{1}{2}$ tbsp. apple juice	$\frac{1}{2}$ cup seeded raisins
$\frac{1}{4}$ tbsp. lemon juice	$\frac{1}{2}$ tbsp. peach juice
$\frac{1}{2}$ tsp. cherry juice	1 tbsp. sugar
$\frac{1}{8}$ tsp. salt	1 oz. chopped citron
Grated rind of $\frac{1}{4}$ orange	1 tbsp. rolled nuts

Cook all together until the apples are done, put in pie tins, and bake in a moderate oven.

341 MINCE MEAT

2½ cups chopped apples	¼ cup currants
2½ cups minced protose	½ cup sugar
⅔ cup meltose or molasses	½ cup raisins
1¼ tsp. salt	1 tbsp. vanilla flavor
1 tsp. butter	½ cup prune marmalade
1 cup boiled apple juice	½ cup rolled nuts

Mix all together, steam or cook slowly until the apples are tender. This is enough for three pies.

342 GRAPE PIE

1 qt. grapes	⅔ cup flour or ½ cup corn-
1¼ cups sugar	starch

Mix sugar and flour together, add to the grapes, being careful not to break them; put in pie tins, lined with pie paste, and put on a top crust; bake until the crust is done and a delicate brown.

If fresh grapes are used, add a little water to each pie, and bake until the grapes are done.

343 APPLE PIE

1½ pt. apples	⅔ cup sugar
3 tbsp. flour	Grated rind of 1 lemon
½ tsp. lemon juice, if desired	Nutmeg to flavor

Line a pie tin with pie paste; mix the flour, sugar, and lemon together, and sprinkle a little in the bottom. Fill with the apples, cut in thin slices. The tin should be slightly rounding full; now add the rest of the sugar, and sprinkle over it the lemon juice, and a little water if the apples are not very juicy.

Put on the upper crust, and bake forty-five minutes or one hour, according to the heat of the oven and the thickness of the apples.

344 CHOCOLATE CUSTARD PIE

1 qt. milk	2 tbsp. cornstarch
1 cup sugar	$\frac{2}{3}$ cup water
4 eggs	2 tsp. vanilla flavor
3 tbsp. grated chocolate	

Reserve the whites of two eggs for meringue or add last to the filling before baking. Beat together the remainder of the eggs, sugar, and vanilla; dissolve the chocolate in the water and cook a few minutes.

When nearly cold, add to the eggs and sugar. Heat the milk in a double boiler; stir in the cornstarch, rubbed smooth in a little cold water, and cook a few minutes.

Cool off a little and add to the other mixture; put in a tin lined with pie crust, and bake until custard is set.

345 CARROT PIE

2 cups milk	2½ tbsp. mashed carrots
2 eggs	3 tsp. sugar
Vanilla or nutmeg flavor	

Beat the eggs quite light; then mix all together, add a little salt, put in a pie tin, and bake until custard is set.

346 PEAR PIE

1 pt. pears	$\frac{2}{3}$ cup sugar
1 tsp. flour	1 tsp. lemon juice
$\frac{1}{3}$ cup pear juice or water	

Mix flour and sugar together, add to the pears and other ingredients; place in a pie tin lined with pie crust, put another crust on top, and bake in a moderate oven.

The pears may be reduced to a pulp, if preferred. If fresh pears are used, they should be pared and sliced rather thin. Peaches may be used.

347 CRANBERRY PIE

1 pt. cranberries	$\frac{1}{2}$ cup flour
1 cup sugar	1 cup water

Pour boiling water over the berries; let stand in a covered dish a few minutes, then drain, put on to cook in the water until they crack.

Mix well together the sugar and flour, and add to the berries.

Bake with an upper and lower crust.

348 PINEAPPLE PIE, NO. 2

$1\frac{1}{2}$ cups grated pineapple	$\frac{1}{4}$ cup sugar
$\frac{1}{2}$ cup pineapple juice	4 tsp. flour

Mix flour and sugar together, add to the pineapple; mix all together, and bake with an upper and lower crust.

349 RAISIN PIE

1 cup raisins	1 cup water
2 tbsp. flour	Sweeten to taste
Juice of 1 lemon	

Wash the raisins clean, stew them until nearly tender, then mix flour and sugar together; put all together and mix carefully, so as not to break the raisins; put in a pie tin and bake.

350 STRAWBERRY PIE

2½ cups strawberries	4 tbsp. flour
¾ cup sugar	3 tbsp. water

Wash the strawberries; put in a pie tin, add water; mix sugar and flour together and add to the berries. Bake with an upper and lower crust in a moderate oven.

If canned berries are used, omit the water and use the juice.

351 CARAMEL PIE

4 eggs	1 qt. milk
2 tbsp. cornstarch	¾ cup sugar
⅓ tsp. vanilla, if desired	

Put sugar in a dish and heat until dissolved and brown; be sure to stir all the time, to keep sugar from burning.

Heat milk to boiling, thicken with the cornstarch, rubbed smooth in a little cold water. Pour slowly over the sugar, stirring all the time; now beat up the eggs and stir in a little of the hot milk; mix all together, add vanilla, put in a pie tin, and bake in a moderate oven until custard is set.

352 COCONUT CREAM PIE

2 cups rich milk	⅓ cup sugar
2 egg yolks	6 tbsp. flour
½ cup shredded coconut	

Put the coconut in the milk and cook in a double boiler one hour; strain through a cheesecloth to remove the coconut; put back on the stove; when boiling hot, thicken with the flour, add beaten egg and sugar.

Cook twenty minutes, add a little salt, and put in a previously baked pie crust. Beat the egg whites to a stiff froth, add one tbsp. sugar and flavor; spread on top of the pie and brown in a quick oven.

353 CHOCOLATE PIE

1 qt. milk	1 cup sugar
$\frac{1}{2}$ tsp. vanilla	2 tbsp. grated chocolate
$\frac{1}{2}$ cup cornstarch	4 egg whites

Heat the milk to boiling in a double boiler; melt the chocolate and add to the milk, then thicken with the cornstarch, rubbed smooth in a little cold milk. Cook for thirty minutes, then add sugar, pinch of salt, and vanilla, and pour in a previously baked pie crust.

Beat up the whites of the eggs to a stiff froth, add two tbsp. sugar, and flavor to taste; spread on top of the pie, and brown slightly in a hot oven.

354 ORANGE PIE

1 cup water	2 tbsp. cornstarch
1 cup sugar	1 tbsp. grated orange rind
1 egg	Juice of 1 orange
1 tsp. butter	Juice of $\frac{1}{2}$ lemon

Heat the water to boiling, add orange rind and juice, the sugar and butter; boil a few minutes, strain, and heat to boiling; thicken with the cornstarch, boil a few minutes longer, then pour over the beaten egg yolk, and cook a few minutes.

Put in a previously baked pie crust and set away to cool. Beat the whites to a stiff froth, add two tsp. sugar and a little orange flavor; put on top of the pie, and brown in a hot oven.

355 PUMPKIN PIE

1 cup pumpkin	$\frac{1}{3}$ cup sugar
3 eggs	1 tbsp. molasses
Pinch of salt	1 pint milk

Season with nutmeg and cinnamon.

Cook the pumpkin, put through a colander, put in a pan, and bake in oven until dry and brown; add the milk, sugar, molasses, eggs and salt. Put in a pie tin, and bake until custard is set, and a nice brown.

Squash may be used instead of pumpkin.

356 RASPBERRY PIE

2½ cups raspberries	4 tbsp. flour
⅔ cup sugar	2 tbsp. water

Make the same as strawberry pie (No. 350), using raspberries instead of strawberries.

357 BLACKBERRY PIE

Make the same as strawberry pie (No. 350), using blackberries instead of strawberries. A little lemon juice may be added, if desired.

358 DRIED APPLE PIE

Take good dried apples, wash thoroughly, and soak for several hours, or over night, in sufficient water to cover them.

Stew gently without draining until tender; put through a colander, or use whole; add lemon flavor, if desired, and a little grated lemon or orange rind.

Bake with two crusts, or ornament with strips.

359 BUTTER SCOTCH PIE

1 qt. milk	¾ cup brown sugar
½ cup granulated sugar	2 tbsp. butter
½ cup cornstarch	4 egg yolks

Put sugar in a dish and heat until dissolved and brown, but do not scorch. Then add the butter, brown sugar, and milk; put in a double boiler, and thicken with the corn-starch; cook ten minutes, then beat up the eggs with a little sugar and a pinch of salt, and cook fifteen minutes longer.

Put in a previously baked pie crust, and set away to cool. Then put the whites on top, and brown in a quick oven.

CHAPTER XVIII.

Cakes

³⁶⁰ SPONGE CAKE, NO. 1

6 eggs	1¼ cups sugar
2 cups flour	1 tsp. vanilla flavor
4 tbsp. hot water (165° F.)	Pinch of salt

Separate the eggs; beat the yolks to a stiff cream, add gradually the hot water and sugar, beating all the time; when very stiff, sift the flour and fold it in very carefully, dipping down at the sides and coming up in the center of the dish, making as few strokes as possible.

Add the salt and flavor, then fold in the whites, which have been beaten to a stiff froth. Pour this in a tin which has been lined with white paper and oiled. Bake in a moderate oven from twenty to forty minutes.

Frost with boiled icing (No. 379), or any other kind of frosting desired may be used.

³⁶¹ SPONGE CAKE, NO. 2

6 eggs	1 cup sugar
3 tbsp. hot water	1 tsp. vanilla flavor
1⅓ cups flour	Pinch of salt

Beat the eggs, then set the dish in another dish of hot water; continue beating until the eggs are stiff and lemon colored, and have a cooked appearance; add hot water, sugar, salt, and flavor; beat a little more, then sift in the flour and fold it in carefully, dipping down at the sides and coming up in the center of the dish, making as few strokes as possible.

Pour this in a cake tin which has been lined with white paper and oiled. Bake in a moderate oven from twenty to forty minutes. Frost with boiled icing (No. 379.)

This is the quickest way to beat up eggs for a cake, but it is harder than the first method in sponge cake No. 1 (No. 360).

362 NUT SPONGE CAKE

3 eggs	$\frac{3}{4}$ cup sugar
$\frac{1}{2}$ cup chopped or rolled nuts	$\frac{1}{2}$ tsp. vanilla
1 cup flour	2 tbsp. hot water

Make the same as sponge cake (No. 360), except adding the nuts last with the flour.

363 CHOCOLATE CAKE

6 eggs	$1\frac{1}{2}$ cups water
2 cups flour	4 tbsp. hot water
$\frac{1}{2}$ cup powdered chocolate	1 tsp. vanilla

Make the same as sponge cake (No. 360), but add the chocolate last, after the flour is in, so as to prevent the cake from falling.

364 STRAWBERRY LAYER CAKE

Make a sponge cake (No. 360); bake in two pans about fifteen minutes; make strawberry jam or marmalade, and put between the cakes; then put a white frosting on top.

365 CUP CAKE

3 eggs	$1\frac{1}{2}$ cups flour
$\frac{1}{2}$ tsp. vanilla	$\frac{1}{2}$ cup sugar
5 tbsp. cream	

Separate the eggs and beat the yolks; then add the sugar and cream; beat until light and frothy; put in the flour and a pinch of salt; fold in the whites of eggs, beaten to a stiff froth; add flavoring, then turn at once into slightly heated and oiled gem irons, and bake in a moderate oven from twenty to thirty minutes.

366 CRESCENT CAKE

Make a sponge cake (No. 360); cut in a half-moon shaped or crescent pieces, spread each piece with a boiled icing (No. 379), and put one or two candied cherries or currants on each piece of cake.

367 JELLY CAKE

Make a sponge cake (No. 360). Bake in two or three small layers from fifteen to twenty minutes; when the cake is cool, put some nice jelly between the layers and a white or pink frosting on top.

368 CHOCOLATE LAYER CAKE

Make a sponge cake (No. 360). Bake in two layers and put chocolate filling (No. 378) between and on top of the cake.

369 COCONUT CAKE

Make a sponge cake (No. 360). Spread the top with cocoanut filling (No. 380), and sprinkle with shredded coconut, or spread with white boiled icing (No. 379), and sprinkle with shredded cocoanut.

370 COCONUT LAYER CAKE

Make the same as strawberry layer cake (No. 364); put coconut filling (No. 380) between the layers and on

top; or if preferred, put a white boiled frosting (No. 379) on top, and sprinkle with shredded cocoanut.

371 ANGEL CAKE

6 egg whites	$\frac{1}{2}$ cup flour
1 tsp. lemon juice	1 tsp. lemon or vanilla
$\frac{3}{4}$ cup powdered sugar	flavor
Small pinch of salt	

Beat the eggs until dry and flaky; add lemon juice and flavor; carefully fold in the mixture of flour and sugar, which should be well sifted. Make as few strokes as possible, dipping down at the sides of the dish and coming up through the center.

Put in a bright and clean cake tin, which should not be oiled, and bake in a moderate oven for about one hour.

Never try to take it out of the tin, but stand upside down until it drops of itself.

372 CREAM CAKE

3 cups sugar	3 tsp. soda
1 cup crisco	240 minims or
2 cups milk	3 tsp. hydrochloric acid C.P.
3 eggs	2 tsp. vanilla
$\frac{1}{4}$ teaspoon salt	$5\frac{1}{2}$ cups flour

This amount of soda and hydrochloric acid is equivalent to twelve teaspoons of baking powder.

Cream the crisco and sugar, stir in the beaten eggs, then add the acid, salt and milk. Stir in half of the flour, then dissolve the soda in a little cold water and add. Stir in the rest of the flour and flavor, beat until perfectly smooth and light. Put out in oiled tins and bake in a moderately hot oven thirty minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

373 STRAWBERRY SHORTCAKE

3 cups of flour	1 tsp. soda
3½ tbsp. crisco	80 minims or
1 cup milk	1 tsp. hydrochloric acid C. P.
½ cup sugar	Pinch of salt

This amount of soda and hydrochloric acid is equivalent to four tsp. baking powder.

Mix half of the flour, the sugar and the salt and work in the crisco. Add the milk and the hydrochloric acid, then mix in the soda which has been dissolved in a little cold water and add the rest of the flour. Roll the dough one-half inch in thickness. Bake in an oblong pan in a hot oven fifteen minutes. Cut into small squares, split, and place crushed and sweetened berries between the layers and on top. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

374 CHOCOLATE CAKE

2 cups sugar	¼ tsp. salt
½ cup crisco	1½ tsp. soda
3½ cups flour	120 minims or
1 cup milk	1½ tsp. hydrochloric acid C.P.
⅓ cup powdered chocolate	2 eggs
	1 tsp. vanilla flavor

This amount of soda and hydrochloric acid is equivalent to six teaspoons of baking powder.

Cream crisco and sugar, stir in the beaten egg, then add the milk, chocolate and salt. Mix well and add the acid, stir in half of the flour and dissolve the soda in a little cold water and add. Then stir in the rest of the flour and vanilla and beat until perfectly smooth and light. Put out in oiled tins and bake in a moderately hot oven from twenty to forty minutes.

If baking powder is used, sift it with the flour and omit both the soda and hydrochloric acid.

375 MARBLED CAKE

2 cups sugar	4 eggs
$\frac{1}{2}$ cup crisco	2 tsp. flavoring
1 cup milk	$1\frac{1}{2}$ tsp. soda
$\frac{1}{2}$ cup powdered chocolate	$1\frac{1}{2}$ tsp. hydrochloric acid C. P. or 120 minims
$2\frac{3}{4}$ cups flour	Pinch of salt

This amount of soda and hydrochloric acid is equivalent to six teaspoons of baking powder.

Cream together the sugar and crisco, add hydrochloric acid, salt and the milk. Stir in half of the flour. Then divide the mixture into three parts and proceed as follows:

Yellow part: Beat two egg yolks and add to one part, and add $\frac{1}{3}$ the soda, which has been dissolved in a little cold water, then stir in one-third of the flour and lemon flavor.

White part: Beat two egg whites and fold into part two, add the soda, which has been dissolved in a little cold water, and half of the flour and lemon flavor.

Dark part: Beat two eggs and add to part three, add soda, which has been dissolved in a little cold water and the rest of the flour, also chocolate and vanilla flavor.

Oil a cake tin and put the dough in alternately in spoonfuls, commencing with the dark mixture and bake in a moderate oven thirty to forty minutes.

Frost with boiled icing.

If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

376 CHOCOLATE CAKES

1½ cups sugar	½ tsp. salt
1 egg	1 tsp. nutmeg or vanilla
⅓ cup mazola	1 tsp. soda
1 cup milk	80 minims or 1 tsp. hydro-
3 cups flour	chloric acid C.P.
¼ cup powdered chocolate	

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Beat together the sugar, mazola, egg, milk and the hydrochloric acid. Sift in half of the flour and add the soda which has been dissolved in a little cold water and stir in the remainder of the flour, also flavoring. With a teaspoon drop them on oiled tins or in muffin tins. Bake in a hot oven fifteen minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

377 ROLLED JELLY CAKE

1½ cups sugar	2 level tsp. soda
½ cup crisco	160 minims or 2 tsp. hydrochloric
1¼ cup milk	acid C.P.
4 eggs	3 cups flour
Pinch of salt	1 tsp. vanilla

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Cream the crisco and sugar, stir in the beaten eggs, then add the acid, salt and milk. Stir in half the flour and then dissolve the soda in a little cold water and add. Stir in the rest of the flour and flavor. Beat until perfectly smooth and light. Put out in oiled tins and bake in a hot oven from fifteen to twenty minutes. Spread with jelly and roll. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

CHAPTER XIX.

Cake Fillings and Icings

378 CHOCOLATE FILLING

$\frac{1}{2}$ cup cream	$\frac{2}{3}$ cup sugar
2 tbsps. cornstarch	$\frac{1}{2}$ tsp. vanilla flavor
$\frac{1}{2}$ cup grated chocolate	

Mix all together, and when cornstarch is dissolved, put over the fire and cook, stirring all the time until it is thick. Do not boil longer than two minutes, and great care should be taken that the chocolate does not scorch.

Remove from the fire; beat in the vanilla, and when cool, spread between layers of cake.

379 BOILED ICING

2 cups sugar	$\frac{1}{3}$ cup water
2 egg whites	Vanilla or lemon flavor

Boil sugar and water together until it strings, or hardens when dropped in cold water; add flavor, and pour over the beaten egg whites, beating until cool; then spread on top of the cake.

To prevent the frosting from hardening, add one-half tsp. lemon juice to the sugar while boiling.

380 COCONUT FILLING

$\frac{1}{2}$ cup cream	$\frac{1}{4}$ cup finely shredded or
1 egg white	ground coconut
1 cup sugar	

Mix the cream and sugar together, and cook until it threads; pour over the beaten egg whites, then stir in the

coconut; beat until it begins to cool, then spread between and on top of layers of cake.

The top may or may not be sprinkled with shredded coconut, as preferred.

³⁸¹ LEMON FILLING

$\frac{1}{2}$ cup sugar	$\frac{1}{2}$ cup flour
2 eggs	$\frac{1}{2}$ cup boiling water
1 tbsp. butter	Juice and rind of 1 lemon

Beat the eggs separately; add sugar and a little salt to the yolks and the lemon juice to the whites. Thicken the boiling water with the flour until it is like a nice gravy; then fold in the beaten yolks and the whites, and use at once.

Cornstarch may be used instead of the flour.

³⁸² CARAMEL FROSTING, NO. 1

$\frac{3}{4}$ cup granulated sugar	3 tbsp. water
$\frac{3}{4}$ cup brown sugar	2 egg whites

Boil sugar and water together until it strings, or hardens when dropped in cold water; then pour quickly over the beaten egg whites.

Beat until cool, and spread between and on top of cake. This frosting has a maple flavor, and looks like rich cream.

³⁸³ CARAMEL FROSTING, NO. 2

1 cup brown sugar	2 tsp. granulated sugar
$\frac{1}{2}$ cup cream	$\frac{1}{2}$ tsp. vanilla

Mix all together; put in a sauce pan over the fire and cook slowly until it hardens when dropped in cold water; flavor and spread on the cake.

384 CARAMEL FILLING

2 cups brown sugar	$\frac{1}{2}$ cup molasses
1 tsp. butter	$\frac{1}{2}$ cup cream
2 tbsp. flour	2 tbsp. grated chocolate
2 tbsp. cold water	$\frac{1}{2}$ tsp. vanilla flavor

Mix well and boil five minutes, or until it is the consistency of rich custard, or gets hard when dropped in cold water.

When cool, flavor and spread between layers of cake, which should be baked as for jelly cake. Cover the top with the same, if desired, and set away to cool.

385 CHOCOLATE FROSTING, NO. 1

3 egg whites	$1\frac{1}{2}$ cups sugar
1 tsp. vanilla	3 tbsp. chocolate

Beat the eggs to a stiff froth, add the sugar, vanilla, and chocolate, which has been melted; then spread between layers of cake, also on top, if desired.

386 CHOCOLATE FROSTING, NO. 2

$\frac{1}{2}$ cup cream or water	2 cups sugar
$\frac{1}{4}$ cup grated chocolate	$\frac{1}{2}$ tsp. vanilla flavor

Mix all together and boil until it hardens when dropped in cold water; add flavor, beat vigorously for a few minutes, then spread on top of cake.

387 ORANGE FILLING

Make the same as lemon filling (No. 381), using orange juice and grated rind instead of lemons.

CHAPTER XX

Breads

Bread is the most important article of food, or, in other words, the "staff of life." Bread is made from flour of wheat and other cereals by the addition of water, salt, and a ferment. Wheat flour contains gluten in the right proportion to make a spongy loaf, and is, therefore, best adapted for bread making. Wheat flour differs from ordinary flour. It is the most nutritious, inasmuch as it contains all the gluten found in wheat.

In the making of yeast or raised bread, milk should not be used in place of water. The use of milk is an additional expense, and it makes the bread less wholesome. Milk bread does not keep sweet so long after baking as does that which is made with water, and it ferments more readily in the stomach.

Bread should be made light and sweet; not the least taint of sourness should be tolerated. The loaves should be small and thoroughly baked, that, so far as possible, the yeast germs shall be destroyed.

When bought or new raised bread of any kind is difficult of digestion ("Ministry of Healing," p. 30).

388 YEAST

Yeast is a microscopic plant of fungous growth, and is the lowest form of vegetable life. It consists of germs floating in the air, of which there are many species.

These spores or germs multiply very rapidly under favorable conditions and produce fermentation. The temperature most favorable to its growth is from 65° to 90° F.

389 HOP YEAST

$\frac{1}{2}$ cake compressed yeast	1 cup potatoes
$\frac{1}{2}$ cup hops or peach tree leaves	$\frac{1}{4}$ cup sugar
	$\frac{1}{4}$ tbsp. salt
1½ pts. water, cornmeal and flour	

Boil the potatoes in the water until done, pour off the water in a gallon jar, mash the potatoes and add. Boil the hops or peach tree leaves fifteen minutes, then pour this water in with the potatoes, add sugar and enough water to make 1½ pints. Let cool to lukewarm, then add the yeast, which has been previously soaked in a little lukewarm water; thicken with flour, like bread sponge, and set to rise. When risen, beat down, then when risen again, add salt and cornmeal to make a rather stiff dough.

Rub with the hands until it crumbs, or roll about one-third of an inch thick and cut in two-inch squares. Then spread on a cloth or paper and dry in the shade.

390 WHITE BREAD

1 cake yeast foam or $\frac{1}{2}$ cake compressed yeast	2½ pts. warm water
2 tbsp. butter or oil	2½ tbsp. salt
	2 tbsp. sugar

Make a sponge by dissolving the yeast in one cup lukewarm water, add sugar, one quart warm water, and flour enough to make a rather stiff batter, stir hard for a few minutes, and set in a warm place to rise over night, or eight hours in daytime, if kept at a temperature of about 90° F.

In the morning, the sponge should be very light. Mix in the water, butter and salt, and flour enough to make a soft dough and prevent the dough from sticking to the board. Knead thoroughly, and add flour until all stickiness is gone and the dough is very elastic. Set in a warm place

to rise to twice its bulk (it should come up in about two hours). Knead down well, and let rise to twice its bulk. This time it will not take nearly so long; then form into loaves and place in oiled bread pans.

After each loaf has risen to double its size, place in a moderate oven and bake from one to one and one-fourth hours. (Decrease the heat gradually to bake the loaf inside.)

One cup less water may be used and potato water added instead, if it is desired to have it rise faster and have the bread more moist, but it will not make such good zwieback. If a closer texture is desired, let the dough rise oftener and knead thoroughly before forming into loaves.

The oven is hot enough to bake bread when it will brown (not burn) a spoonful of flour in one minute when thrown on its floor.

391 WHOLE WHEAT BREAD

1 cake yeast foam	2½ tbsp. butter or oil
2 pts. warm water	4 tsp. salt
2 tbsp. sugar	

Make a sponge same as for white bread (No. 390); when light, mix into a dough, using one-half whole wheat flour. Make the dough a little stiffer than you would for white bread and proceed as for white bread.

392 GRAHAM BREAD

1 cake yeast foam	2 tbsp. butter or oil
2 pts. warm water	2 tsp. salt
2 tbsp. sugar	

Make same as whole wheat bread (No. 391), using graham flour instead of whole wheat flour.

393 RICE BREAD

Make a sponge as for white bread (No. 390); in the morning add two pints warm milk, two cups rice flour, mixed to a thin paste with cold milk, and boil four minutes like you would starch. This should be a little more than blood warm when it is stirred into the batter. Add flour to make a smooth dough, knead thoroughly, and treat like white bread. This is nice and delicate for invalids, and keeps well.

If you can not procure the rice flour, boil two-thirds of a cup of rice to a thin paste, mashing and beating it smooth.

394 BRAN BREAD

$\frac{1}{2}$ cake yeast foam	$\frac{1}{4}$ cup molasses
3 tbsp. butter or oil	1 pt. warm water
2 tsp. salt	2 cups bran

Make a sponge as for white bread (No. 390). When light, add water, molasses, butter and salt; knead in white flour and bran to make a soft dough, let rise to double its bulk, knead down well, let rise again to double its bulk, knead again, and form into loaves and put in oiled tins; let rise until twice their size or very light, for it will not rise in the oven; then bake one hour and a half in a moderate oven.

395 RAISED CORN BREAD

$\frac{1}{2}$ cake yeast foam	$1\frac{1}{2}$ cups cornmeal
2 cups warm water	2 tbsp. sugar
2 tbsp. butter or oil	2 tsp. salt

Make a sponge as for white bread (No. 390). When light, add water, salt, butter, sugar, cornmeal and whole wheat flour enough to make a soft dough. Knead well; set

in a warm place to rise until double its bulk; knead down well, add more flour if needed; let rise until very light or the size you wish the loaf to be when baked, for it will not rise in the oven. Bake in a moderately hot oven one and one-half hours.

396 RYE BREAD

$\frac{1}{2}$ cake yeast foam	1 tsp. salt
1 cup warm water	$1\frac{1}{2}$ cups rye flour
1 tbsp. molasses	1 tbsp. butter or oil

Make a sponge as for white bread (No. 390). When light, add water, salt, molasses, and white flour enough to make a soft dough, being sure not to get it too stiff. Knead thoroughly, and set in a warm place to rise to double its bulk; knead well and let rise again; when light, knead again and form into loaves, and let rise to twice their size—not less, for it will not rise in the oven. Bake in a moderately hot oven one and one-fourth hours.

397 FRUIT BREAD

Make same as white bread (No. 390), washing raisins, currants, or any other fruit, clean and drying it, then mix into the dough.

This will rise slower and take longer to bake than white bread, on account of the fruit.

398 BOSTON BROWN BREAD

$\frac{1}{2}$ cake yeast foam	1 cup rye flour
$\frac{1}{2}$ cup cornmeal	2 tsp. salt
2 tbsp. butter or oil	1 pt. warm water
1 cup graham flour	1 cup molasses

Make a sponge as for white bread (No. 390). When light, add salt, butter, molasses, water, meal, and white flour

enough to make a very stiff batter; put in brown bread tins and steam three hours, and dry off in the oven; or knead into a soft dough, let rise to double its bulk, then knead well; let rise and knead again, then form into loaves, let rise to twice their size or a little more, for it will not rise in the oven, and bake in a medium hot oven for one hour and forty minutes.

399 STRAIGHT DOUGH BREAD

$\frac{1}{2}$ cake yeast foam	1 tbsp. butter or oil
2 tsp. salt	2 tbsp. sugar
1 pt. lukewarm water	

Dissolve yeast in one-half cup warm water, add water and other ingredients, mix well, and add flour enough to make a rather stiff dough, knead twenty minutes. Let rise in a warm place over night, or about twelve hours; if compressed yeast is used, four hours. Form into loaves and bake one hour, after having risen to twice their size. Straight dough bread is made by mixing all the ingredients at one time. The bread is coarser in texture than bread made from sponge dough.

400 FRENCH ROLLS

$\frac{1}{2}$ cake yeast foam	$2\frac{1}{2}$ tbsp. butter or oil
2 tbsp. sugar	1 egg
1 cup lukewarm water or milk	1 tsp. salt

Make a sponge as for white bread (No. 390); add sugar, water, egg, butter and salt. Mix well and add flour to make a soft dough; knead well, set in a warm place to rise; when very light, add just enough flour to keep it from sticking to the board. Let rise again until very light. Roll out half an inch thick, brush with butter, sprinkle with

sugar, then roll together and cut in about one-inch lengths. Set endwise in an oiled tin; put in a warm place to rise until about two and one-half times their original size, and bake in a moderately hot oven twenty minutes.

Glaze the top with egg white, milk and sugar, beaten together, and dry in the oven.

401 FRUIT ROLLS

Make the same as French rolls (No. 400); roll out half an inch thick, brush with butter, and spread with raisins or any other fruit desired; sprinkle with sugar, then roll together and cut in one and one-half inch lengths. Set in a warm place to rise until nearly three times their original size, and bake in a moderate oven thirty-five minutes. Glaze the top and dry in the oven.

402 PARKER HOUSE ROLLS

Make the same as French rolls (No. 400). Roll out about half an inch thick, shape with a biscuit cutter, brush each shape with melted butter, crease through the center, fold over, and press the edges together. Place in a buttered pan one inch apart and let rise until very light, or about three times their original size. Bake fifteen minutes in a hot oven. Brush the top with melted butter.

403 GERMAN COFFEE CAKE

$\frac{1}{2}$ cake yeast foam	1 tsp. salt
$\frac{1}{2}$ cup sugar	$\frac{1}{3}$ cup butter
1 egg	1 cup cream or milk, scalded and cooled

Make a sponge as for white bread (No. 390). When very light, mix all together and add flour enough to make a very soft dough. Put in an oiled pan, set in a warm place to rise until very light and spongy; rub the top with sugar

dissolved in milk and sprinkle with dry sugar. Bake in a moderate oven for thirty minutes. Potato water may be used instead of cream or milk.

404 RAISED DOUGHNUTS

1 pt. yeast foam bread	2 eggs, beaten very light
sponge	1 tsp. salt
1 cup melted butter	$\frac{1}{4}$ tsp. ground nutmeg,
1 cup sugar	if desired

Mix all together, add flour to make a very soft dough; let rise to double its bulk. Knead down, then roll out and cut into shape; place in an oiled tin one inch apart. When very light, bake in a hot oven fifteen minutes. Brush the top with melted butter, or glaze over and sprinkle with powdered sugar.

405 GERMAN APPLE CAKE

1 cake yeast foam	$\frac{1}{2}$ cup sugar
1 cup scalded milk	3 tbsp. butter
2 eggs	1 tsp. salt

Make a sponge as for white bread (No. 390), using half potato water. When very light, add sugar, salt, butter, eggs, milk, and flour enough to make a very soft dough; knead thoroughly, put in a warm place to rise to double its bulk; knead and let rise again; when very light, roll out one inch thick and place in an oiled pan.

Pare and cut tart apples into rather thick slices and press them in on top of the cake, placing them rather close together; sprinkle with sugar, then cover with a cloth and set in a warm place to rise. When very light, bake in a moderate oven about forty-five minutes, so that the apples are baked at the same time the cake is done.

Glaze the top with egg white, milk, and sugar, beaten together, and dry in the oven.

406 BREAD CAKE

1 pt. bread sponge	1 cup lukewarm milk
$\frac{1}{2}$ cup butter	$\frac{1}{2}$ cup dried currants
$\frac{1}{2}$ cup sugar	or dates
	Pinch of salt

Mix these well together, add flour to make a thin dough. Let rise to double its bulk, then turn it out on a floured board and roll out an inch in thickness. Place in an oiled pan, cover, and let rise in a warm place to twice its original size, and when ready to place in the oven, brush the top with cold water, and bake in a moderate oven for forty-five minutes.

When done, have a thin paste made of cornstarch, sugar and hot water, boiled together a few minutes. Brush the top with this and return to the oven a few minutes.

407 BUNS

$\frac{1}{2}$ cake yeast foam	1 tsp. salt
2 tbsp. sugar	1 cup lukewarm water
2 $\frac{1}{2}$ tbsp. butter or oil	

Make a sponge as for white bread (No. 390). When light, add sugar, salt, butter and water. Mix well, then add flour enough to make a soft dough; knead well, set in a warm place to rise; when light, knead again. Add just flour enough to keep it from sticking to the board. Let rise until very light. Form into buns, one ounce each, place in an oiled pan one inch apart. When partly risen, press down, then let rise to three times their original size, and bake fifteen minutes in a brisk oven. Brush the tops with melted butter.

408 VIENNA ROLLS

$\frac{1}{2}$ cake yeast foam	1 pt. warm water
2 $\frac{1}{2}$ tsp. salt	4 tbsp. sugar
3 tbsp. butter or oil	

Make a sponge as for white bread (No. 390). When light, add water, salt, sugar and butter. Mix well and knead in flour enough to make a medium soft dough. Let rise until double its bulk; knead well, and let rise until very light, then shape the same as small Vienna loaves, about six inches long. Place in a buttered pan one inch apart and let rise. When very light, nearly three times their original size, gash the tops diagonally three times; bake in a moderately hot oven twenty minutes. If desired, the rolls may be brushed with beaten eggs instead of gashing them.

409 SALT RISING BREAD

1 cup white cornmeal	1 pt. boiling water
$\frac{2}{3}$ tsp. salt	1 pt. lukewarm water
1½ tbsp. sugar	

Put the cornmeal in a stone jar, add sugar and salt, and scald with the boiling water; then add the lukewarm water and beat in gradually enough white flour (warm it first in the oven) to make a medium thick batter. The jar must be perfectly clean and sweet; before using, scald it for a few minutes on the stove with boiling water. Also scald the spoon or beater each time before using.

Set the jar in a vessel of water at 115° F. Do not make it hot enough to scald. Put a cover over the top of it and keep it at the same temperature, where no draft will reach it, for about four hours, or until the sponge begins to foam; then stir in enough warm flour to make a thick batter, and let rise three hours, or until it is full of air bubbles and has doubled its bulk. Beat it down two or three times, and watch it closely, as it will rise very suddenly.

Pour the sponge in a warm bread pan; stir in warm flour a little at a time and knead lightly into a soft dough. Make into loaves and place in oiled bread pans. Keep in a very warm place until very light, or about three times their

original size (about one hour), then bake in a moderately hot oven one hour or longer, according to the size of the loaves.

Graham or whole wheat flour can be used with the white flour, preferably one-fourth of the coarse flour.

The secret of success with this bread is good flour and keeping it warm during the entire process. This bread does not spoil during the hottest weather, and the older it is the better it becomes.

410 GLUTEN BREAD

1 cake yeast foam or $\frac{1}{2}$ oz.	1 cup warm water
compressed yeast	1 tsp. salt
3 qts. flour	

Mix the three quarts flour with one and one-half pints water into a stiff dough and knead well; then soak in ice cold water for three hours; then wash the dough with the hands in the water, changing the water until it remains clear. The dough will then be a rubber-like, glutinous mass.

Dissolve the yeast in the cup of water and stir in flour enough to make a rather stiff batter; when light, mix with the gluten just prepared, add salt and enough whole wheat or hard wheat flour to make a soft dough; knead twenty minutes, until perfectly smooth and elastic. Let rise to double its bulk; knead down and let rise half way, mold into loaves, prick with a fork (do not add any more flour). When risen to twice their size, bake in a medium hot oven one hour.

This bread is especially beneficial for diabetic patients, and can be made by any one when the gluten flour is not obtainable.

411 GLUTEN BISCUIT OR STICKS

Prepare a dough and wash out the starch as for gluten bread (No. 410). Add just enough of the flour so that the dough can be rolled into thin sticks or cakes. Prick with a fork, place in a pan, and bake in a moderately hot oven until light and crisp and a rich dark brown color.

CHAPTER XXI

Unfermented Breads

The most common home-made bread and the most objectionable is *hot biscuits*. In the process of bread-making, it is necessary to use something to make the bread light. If a dough should be made of flour and water, and baked, it would be difficult to masticate and hard to digest.

In yeast bread, the carbonic acid gas produced by the yeast cells makes it light. But this is quite a lengthy process, and it is sometimes necessary or convenient to use a shorter process.

A very common method is to use bicarbonate of soda and sour milk, or baking powder, to make the bread light. In either process, carbonic acid gas is produced by the decomposition of the bicarbonate of soda with the lactic acid of the sour milk, or by the tartaric acid of the baking powder.

When sour milk is used, it is impossible to know just how acid the milk is, and just how much soda will be required to neutralize it.

Too much soda is generally used, which can be tasted in the bread. It makes the bread yellow and injures the delicate lining of the stomach and digestive tract.

When baking powder is used, the two chemicals, bicarbonate of soda and tartaric acid, being present in just the right proportions, no soda is left in the bread. But the two chemicals do not neutralize each other in any such way as to destroy each other, and there is left in the bread a substance identical with the *Rochelle salts* sold at the drugstore.

When two teaspoonfuls of baking powder are used to a quart of flour, it leaves in the bread *one hundred sixty-five*

grains of Rochelle salts; that is, forty-five grains more than the amount in a Seidlitz powder. The high-priced baking powders leave in the food Rochelle salts.

From a pound of the powder is left in the food about three-fourths of a pound of this drug. (See "Encyclopedia Britannica," Vol. XXIII, p. 69.) The distinguished authority, Prof. H. W. Wiley, chemist of the U. S. Department of Agriculture, states that a loaf of bread made with a baking powder of the class which sells for 40 to 50 cents a pound, contains *250 grains of Rochelle Salts*, the equivalent of two Seidlitz powders. (See U. S. Department of Agriculture, Bulletin No. 15, Food and Adulterations.)

This is a serious objection, as the people who pay 40 to 50 cents a pound for purity would not knowingly put such a *purgative drug* into their *food* in such doses.

This foreign substance has no nutritive value, and when taken into the body must be thrown off by the excretory organs, thus putting extra work upon them.

It has been demonstrated that the chemicals found in baking-powder retard digestion. Bread thus made can not be called pure. While it may sometimes be necessary to take a dose of salts, the daily swallowing of this substance in our bread can not be conducive to good health.

Air may be incorporated into a batter by beating. The use of eggs will aid in the process, because the whites of the eggs, on account of their viscous nature, readily catch air, and will help convey it into the batter.

412 GRAHAM GEMS

2 eggs	1 cup graham flour
1 cup milk	$\frac{1}{2}$ cup white flour
1 tsp. molasses	$\frac{1}{4}$ tsp. salt

Beat the eggs well, add milk, sugar, and salt, then stir in the flour; beat with a wire egg-beater until very light and full of air bubbles, then put in very hot gem irons, which have been oiled, and bake in a hot oven thirty minutes.

In making gems or puffs, the batter should be stiff enough so that it will begin to pile up when lifting up with a spoon.

413 WHOLE WHEAT PUFFS

1 cup milk	1 cup whole wheat flour
2 eggs	$\frac{1}{4}$ tsp. salt
	$\frac{2}{3}$ cup white flour

Make the same as graham gems (No. 412), using whole wheat flour.

414 CORN GEMS

1 cup milk	$\frac{1}{4}$ tsp. salt
1 egg	$\frac{2}{3}$ cup white flour
1 tbsp. sugar	$\frac{1}{2}$ cup cornmeal

Make the same as graham gems (No. 412), using cornmeal instead of graham flour.

415 GLUTEN PUFFS

1 cup milk	1 cup gluten flour
2 eggs	$\frac{2}{3}$ cup white flour
	$\frac{1}{4}$ tsp. salt

Make the same as graham gems (No. 412), using gluten flour instead of graham flour.

416 RICE FLOUR GEMS

1 egg	$\frac{1}{2}$ cup milk
$\frac{1}{4}$ tsp. sugar	$\frac{1}{8}$ tsp. salt
$\frac{1}{4}$ cup rice flour, scant measure	

Make the same as graham gems (No. 412), using rice flour instead of graham. Bake twenty minutes.

417 CHOCOLATE PUFFS

2 eggs	1 tbsp. powdered chocolate
1 cup milk	1 tbsp. sugar
$\frac{1}{4}$ tsp. salt	$1\frac{1}{2}$ cups flour

Make the same as graham gems (No. 412), adding the chocolate last, to prevent falling, and bake from twenty to forty minutes.

418 CURRANT PUFFS

1 egg	$\frac{1}{4}$ cup currants
1 cup milk	$\frac{1}{4}$ tsp. salt
$1\frac{1}{2}$ cups flour	

Make the same as graham gems (No. 412), adding currants last, which should be rolled in flour first, to prevent sinking to the bottom, and mix in evenly. Bake twenty to thirty minutes.

419 POP-OVERS

2 eggs	1 pt. flour
1 cup milk	$\frac{1}{2}$ tsp. salt

Make the same as graham gems (No. 412). Bake in a quick oven twenty minutes.

420 BRAN GEMS

1 cup milk	1 tsp. molasses
1 egg	$\frac{1}{4}$ tsp. salt
1 cup bran	1 cup flour

Beat the eggs well, add milk, molasses, and salt; stir in the bran, and flour enough to make a stiff batter.

Beat until very light and full of air bubbles. Put in very hot and oiled gem irons. Bake forty-five minutes in a medium hot oven.

421 CREAM STICKS

2 cups flour

 $\frac{1}{4}$ tsp. salt $\frac{1}{2}$ cup cream

Mix flour and salt together, then pour the cream into the flour, a little at a time; mix with a fork, form small particles of dough until the flour is all used up; put on a floured board, and knead carefully, taking pains to stretch the dough, to make the gluten elastic, and fold in air with which to make them light.

When the dough snaps well in pulling it apart, roll out about one-third of an inch thick, cut into sticks one-third of an inch wide and three inches long.

Bake on a perforated tin about twenty or thirty minutes in a moderately hot oven. The sticks should be thoroughly dried out, and a delicate brown when done.

422 FRUIT CRACKERS

 $\frac{1}{2}$ tsp. salt $\frac{1}{2}$ cup butter

3 cups white flour

1 cup cream

 $\frac{2}{3}$ cup currants or raisins

Mix, knead lightly, and divide the dough into halves. Roll each part a little thicker than pie crust, cover one piece with the fruit, then place the other piece of dough over this, and roll to about half the thickness; cut into squares, prick each piece with a fork, and bake in a moderate oven a nice delicate brown.

423 FIG CRACKERS

 $\frac{1}{2}$ cup butter

2 cups flour

1 cup cream

 $\frac{1}{3}$ tsp. salt

1 cup fig marmalade

Sift the flour and thoroughly work into it the butter and salt; rub with the hands until perfectly smooth; moisten

with the cream, handling as little as possible and without kneading.

Roll out and finish as for fruit crackers (No. 422).

424 CREAM PUFFS

$\frac{1}{4}$ cup butter	1 cup warm water
4 eggs	1 tbsp. sugar
1 cup flour	Pinch of salt

Stir the butter into the water, when it boils, add sugar, salt, and flour, and cook one minute, stirring constantly. Beat the eggs light, yolks and whites separately, and whip into the cooked paste, the whites last, which should be beaten to a stiff froth, until the mixture is perfectly smooth.

Drop in spoonfuls in a buttered pan. Bake thirty minutes in a quick oven, until they are of a golden brown; cool the oven down towards the last.

When cool, open one side and fill with whipped cream, then close them again and serve.

425 BOSTON CREAM CAKES

Make the same as cream puffs (No. 424), and use the following filling instead of whipped cream:—

1 cup milk	$\frac{1}{2}$ tsp. butter
1 egg	1 tbsp. cornstarch
$\frac{1}{2}$ cup sugar	Vanilla flavor

Heat the milk in a double boiler; thicken with the cornstarch, and cook ten minutes; add sugar, egg and salt. Cook a few minutes longer, flavor, mix well, and set away to cool; then open one side and fill with the mixture, close again and serve.

426 GRANOSE DROP CAKES

5 eggs	$\frac{1}{2}$ cup sugar
1 tsp. lemon juice	$\frac{1}{4}$ cup hot water
3 cups granose flakes	$\frac{1}{8}$ tsp. salt

Separate the eggs; beat the yolks until quite light, add the water and lemon juice and sugar; beat until very light and thick; add salt, and fold in the flakes; then fold in the whites, beaten to a stiff froth, making as few strokes as possible.

Put out in spoonfuls on an oiled tin, and bake in a hot oven until brown. Any other kind of flakes may be used.

427 CORN DROP CAKES

4 cups corn flakes	$\frac{1}{2}$ cup sugar
$\frac{1}{4}$ tsp. lemon flavor	4 eggs
1 tbsp. hot water	Pinch of salt

Make the same as granose drop cakes (No. 426), using cornflakes, which will make a much lighter drop cake.

428 RICE CUP CAKES

4 eggs	1 tbsp. lemon juice
$\frac{1}{2}$ cup rice flour	1 cup sugar
$\frac{1}{2}$ cup white flour	Pinch of salt

Separate the eggs, beat the yolks ten minutes; then add sugar and beat again; add salt and lemon juice to the whites and beat until crumbly; then fold into the yolk mixture; also fold in the rice flour and white flour, sifted.

Bake in gem irons or patty pans in a moderate oven thirty-five minutes.

429 GRAHAM MUFFINS

2 cups milk	3 tbsp. cooking oil
1 egg	3 tbsp. molasses

1 tsp. salt	½ cup sterilized bran
2 cups graham flour	3½ cups white flour
2 tsp. soda	160 minims or 2 tsp. hydrochloric acid C.P.

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Beat the egg, add the milk, cooking oil, molasses and salt. Then put in the acid and half of the flour; then add the soda which has been dissolved in a little water. Stir in the rest of the flour and bran until thoroughly mixed. Put in hot gem irons and bake in a hot oven twenty minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

430 BRAN MUFFINS

2 cups sweet milk	1 cup graham flour
1 egg	3 cups sterilized bran
3 tbsp. molasses	2 tsp. soda (level)
3 tbsp. cooking oil	160 minims or
1 tsp. salt	2 tsp. hydrochloric acid C.P.
	3 cups white flour

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Beat the egg, add the milk, cooking oil, molasses and salt. Then put in the acid and half of the flour; then add the soda which has been dissolved in a little water. Stir in the rest of the flour and bran until thoroughly mixed. Put in hot oiled gem irons and bake in a hot oven twenty minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

431 OATMEAL MUFFINS

2 cups sweet milk	4 cups white flour
1 egg	1 cup rolled oats

2 tbsp. molasses	3 cups sterilized bran
3 tbsp. cooking oil	2 tsp. soda
1 tsp. salt	160 minims or 2 tsp. hydrochloric acid C.P.

This amount of soda and hydrochloric is equivalent to eight teaspoons of baking powder.

Beat the egg, add the milk, molasses, cooking oil and salt, then put in the acid. Stir in the rolled oats; bran and half of the flour, then dissolve the soda in a little water and add. Stir in the rest of the flour until smooth. Put in oiled gem irons and bake in a hot oven twenty minutes.

If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

432 RYE BRAN GEMS

2 cups sweet milk	4 cups sterilized bran
1 egg	2 cups rye flour
2 tbsp. molasses	2 cups white flour
3 tbsp. cooking oil	2 tsp. soda
1 tsp. salt	160 minims or 2 tsp. hydrochloric acid C.P.

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Beat the egg, add milk, cooking oil, molasses and salt. Then put in the acid and half of the flour; then add the soda which has been dissolved in a little cold water. Stir in the rest of the flour until thoroughly mixed. Put in hot gem irons and bake in a hot oven thirty minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

433 SOY BEAN MUFFINS

2 cups sweet milk	2 tsp. soda
2 eggs	160 minims or 2 tsp. hydrochloric acid C.P.
1/2 tbsp. molasses	

- | | |
|--------------------------|----------------------|
| 2 tbsp. cooking oil | 2 cups white flour |
| 1 $\frac{1}{4}$ cup bran | 1 cup soy bean flour |
| | 1 tsp. salt |

This amount of soda and hydrochloric acid is equivalent to eight teaspoons of baking powder.

Beat the eggs, add the milk, cooking oil, molasses and salt. Then put in the acid and half of the flour; then add the soda which has been dissolved in a little cold water. Stir in the rest of the flour until thoroughly mixed. Put in hot oiled gem irons and bake in a hot oven thirty minutes. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

434 GLUTEN AND BRAN GEMS

- | | |
|-------------------------|----------------------------|
| 1 cup sweet milk | 1 tsp. soda |
| 2 eggs | 80 minims or 1 tsp. hydro- |
| $\frac{1}{4}$ tsp. salt | chloric acid C.P. |
| 1 tbsp. cooking oil | |

Equal parts of gluten flour and sterilized bran.

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Beat the eggs, add the milk, cooking oil and salt, then put in the acid. Now stir in half of the flour and add the soda which has been dissolved in a little cold water. Stir in the rest of the flour and bran until thoroughly mixed and forms a thick batter. Put in hot oiled gem irons and bake in a hot oven thirty minutes.

If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

435 COCONUT CROWNS WITH CHERRIES

- | | |
|-------------------------|----------------------------|
| 2 cups shredded coconut | 2 tbsp. butter |
| 2 cups sugar | 1 tsp. soda |
| 4 cups flour | 80 minims or 1 tsp. hydro- |
| 2 eggs | chloric acid C.P. |
| 1 cup sweet milk | Pinch of salt |

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Cream the butter and sugar, then stir in the beaten eggs and milk. Add the cocoanut, acid and half of the flour. Put in the soda, which has been dissolved in a little cold water and the rest of the flour. Mix well and drop in teaspoonfuls on an oiled tin. Place a red cherry on the center and bake ten minutes in a hot oven. If baking powder is used omit both the soda and hydrochloric acid and proceed in the ordinary way.

436 CORN BREAD NO. 1

1 cup boiling water	$\frac{1}{2}$ cup cold milk
2 eggs	$\frac{1}{2}$ tsp. salt
1 tsp. sugar	1 tbsp. cooking oil
2 cups cornmeal	$\frac{3}{4}$ cup white flour

Mix the cornmeal, flour, sugar and salt together; add the oil, pour on the boiling water in a slow stream and stir well. Add the cold milk to make a medium smooth batter. Now stir in the beaten egg yolks, and last fold in the stiffly beaten whites.

Pour out in an oiled pan and bake in a hot oven.

437 CORN BREAD NO. 2

$1\frac{1}{2}$ cup sweet milk	1 egg
2 tbsp. cooking oil	2 cups cornmeal
$\frac{3}{4}$ cup flour	2 tbsp. sugar
1 level tsp. soda	80 minims or
$\frac{1}{2}$ tsp. salt	1 tsp. hydrochloric acid C.P.

This amount of soda and hydrochloric acid is equivalent to four teaspoons of baking powder.

Mix together the milk, beaten egg, salt, oil and then add the acid. Stir in half of the flour and cornmeal, and put in the soda, which has been dissolved in a little cold

water. Stir in the rest of the flour and cornmeal and mix thoroughly. Put out in oiled tin and bake in a hot oven. If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

438 OATMEAL COOKIES

$\frac{1}{2}$ cup crisco	$\frac{1}{2}$ cup sugar
$\frac{1}{2}$ cup molasses	$\frac{1}{2}$ cup milk
$3\frac{1}{2}$ cups flour	2 cups rolled oats
1 egg	1 tsp. nutmeg
$\frac{1}{2}$ tsp. salt	$1\frac{1}{2}$ tsp. soda
1 tsp. hydrochloric acid C. P.	

This amount of soda and hydrochloric acid is equivalent to six teaspoons of baking powder.

Cream the crisco sugar and egg, add milk and acid. Stir in half of the flour and rolled oats; then dissolve the soda in a little cold water and add. Stir in the rest of the flour, salt and nutmeg. Roll out on a floured board and cut with a cookie cutter. Bake in a hot oven.

If baking powder is used, sift it with the flour and omit the soda and hydrochloric acid.

CHAPTER XXII.

Cereals

Grains are the most nutritious and a perfect food in themselves, as they approach more closely than other foods to the proper standard of proportion of food elements and if properly prepared and masticated are easily digested.

The grains are all similar in composition, varying in the relative amounts of the various elements, such as gluten, albumen, casein, and fibrin, together with starch, which is converted into dextrin or sugar, and fatty matter; also mineral elements, cellulose and vitamins.

439 RULES FOR COOKING CEREALS

In cooking grains, measure both liquid and grains accurately with the same measure. They should be introduced **into** rapidly boiling salted water, adding slowly, so as not to stop the water from boiling, beating with a batter whip, so that the grains may be thoroughly mixed with the water and **free** from lumps.

In cooking coarse grains, such as cracked wheat, pearl barley, hulled wheat, or hominy, keep them boiling rapidly, stirring occasionally until it thickens or the grain does not sink to the bottom but hangs suspended in the water. This should now be set in the outer part of a double boiler (the water in which should be boiling), which is far preferable and requires but little attention, except to keep the outer boiler filled and the water boiling.

The object in starting the grains in boiling water is to more completely break up the indigestible outer portion, or cellulose, thus causing the starch granules to be more thor-

oughly acted upon by the water, and causing the starch and the gluten to be cooked as thoroughly as possible.

Grains cooked in a double boiler will need no stirring at all after being set, and can be made to retain their original form (especially rolled oats and the flaky foods), which makes them appetizing and attractive. Stirring will make the food pasty and destroys its appearance.

Many people think grains can be cooked in fifteen or twenty minutes. This is a serious mistake and has ruined many a stomach.

Grains consist largely of starch cells, which are enclosed in a tough, fibrous coat, which the saliva or gastric juice does not affect.

Prolonged cooking causes the starch in the cells to expand and burst the cells; then it can be acted upon by the saliva, which changes it to dextrin.

Grains combine nicely with fruit, and may be served with fruit juice, or cream or sugar, separately. Milk or cream and sugar combined is very injurious, because it very readily ferments and causes a sour stomach.

440 COMPOSITION OF CEREALS AS GIVEN BY
THE DEPARTMENT OF AGRICULTURE,
WASHINGTON, D. C.

	Protein.	Fat.	Starch.	Minerals.	Water.
Oatmeal	15.6	7.3	68.0	1.9	7.2
Cornmeal	8.9	2.2	75.1	.9	12.9
Spring wheat flour	11.8	1.1	75.0	.5	11.6
Winter wheat flour	10.4	1.0	75.6	.5	12.5
Whole wheat flour	14.2	1.9	70.6	1.2	12.1
Graham flour	13.7	2.2	70.3	2.0	11.8
Pearl barley	9.3	1.0	77.6	1.3	10.8
Rye meal	7.1	.9	78.5	.8	12.7
Rice	7.8	.4	79.4	.4	12.4
Buckwheat flour	6.1	1.0	77.2	1.4	14.3
Macaroni	11.7	1.6	72.9	5.0	

445 RICE—ITS VALUE AND ADULTERATION

Rice is believed to sustain a larger portion of the human race than any other substance used for food, not even excepting wheat, maize, or any other cereal. It is also the most easily digested of the cereals, and where it is made the principal food and chief support, indigestion and its horrors of mental depression and suicidal tendencies are almost unknown.

The Japanese use unpolished rice, for they do not use rice subjected to adulteration, nor is it stripped by polishing off its most nourishing portion. And this is why unpolished rice is the most desirable form of rice obtainable.

The rice of commerce, in this and other countries, is made attractive to the buyer by coating it with glucose and talc to produce the pearly appearance. Thanks to the operation of our pure food laws, those who sell rice in packages are obliged to place on the outside the fact of its adulteration.

We find printed on one of the packages containing polished rice the following: "This rice is coated with glucose and talc. Remove by washing in cold water."

Talc is a mineral which when powdered is extensively used as a lubricator, and in solid slabs as hearthstones, etc. It is the essential ingredient of baby powders. And the glucose is made commercially by treating starch with diluted sulphuric acid.

The instruction on the package to wash the rice is good advice. Persons using such rice should be careful to wash it thoroughly. In some instances it is necessary to wash it four times, or until the water remains clear.

446 CREAMED RICE

1 cup rice

1 tsp. salt

1½ qts. milk or cream

Wash the rice as for steamed rice (No. 456), and cook in a double boiler until tender and it thickens; but do not

stir it while cooking, so as to have each grain whole.

Time: One and one-fourth hours.

447 SPANISH RICE

1 pt. rice	1 small onion
1 tsp. salt	2 tbsp. tomato juice
2 tbsp. cooking oil or butter	

Chop the onion fine, put in an oiled pan, and braize on top of the stove until a light brown, but not scorched; then add the rice, oil, and salt, cover with hot water, and cook until nearly done; then add the tomato juice and more water as it cooks away; now put in the oven to finish.

It should be of a reddish brown color when done, and each grain separate.

448 BOILED RICE

1 pt. rice	4 qts. water
1 tsp. salt	

Have the water foaming boiling hot, then add the salt and rice, which has been well washed as in recipe (No. 456), and cook rapidly for twenty minutes.

Drain in a colander and pour over the rice about a quart of cold water; return to the sauce pan, add a little more salt and water or cream, and set away on the stove or in the oven a few minutes.

Rice is done when it can be mashed between the fingers.

449 MALTED RICE

1 pt. boiling water	$\frac{1}{2}$ cup malted nuts
$\frac{1}{3}$ cup rice	$\frac{1}{2}$ tsp. salt

Heat the water to boiling, then stir in the malted nuts, and boil a few minutes. Add the salt and rice, set in a double boiler, and cook for two hours.

450 RICE A LA GEORGIENE

Cook the same as boiled rice (No. 448) ; pour a pint of cream over it, and brown in the oven. A few minutes before it is done, spread the top with a little melted butter, and brown.

451 BAKED RICE

Cook the same as boiled rice (No. 448) ; put in a pan, moisten with milk and butter, and bake thirty minutes in the oven.

452 BAKED CORNMEAL MUSH

Slice cold cooked cornmeal mush into rather thin slices, roll in beaten egg and toasted bread crumbs or flour ; place in an oiled pan, moisten the top with butter or cream, and bake in a hot oven until well heated through and nicely browned. Serve with meltose or maple syrup.

Farina, vitos, and cream of wheat may be prepared and served in the same way as cornmeal mush.

453 GRAHAM PORRIDGE

3 cups water

1 tsp. salt

1 cup graham flour

Heat the water to boiling, add salt, stir in the flour, and beat with a wire beater until perfectly smooth ; set in a double boiler and cook from eight to twelve hours.

About half an hour before serving, stir in one-half cup of dates, washed and seeded, if desired.

454 GLUTEN MUSH

Heat a cup of water to boiling ; sift in lightly with the fingers, stirring constantly meanwhile, enough 20 per cent gluten meal to make a mush of the desired consistency. Boil up once, salt to taste, and serve hot.

455 POTATO PORRIDGE

1 pt. water	$\frac{1}{2}$ cup tomato juice
$1\frac{1}{3}$ tsp. salt	$1\frac{1}{3}$ cups potato meal
1 tsp. butter or coconut oil	

Heat the water to boiling, add hot tomato juice, then stir in the potato meal, and cook about fifteen minutes. Season and serve hot.

456 STEAMED RICE

$2\frac{1}{2}$ cups water	1 cup rice
1 tsp. salt	

Wash the rice thoroughly, rubbing it between the hands until perfectly clean and the water is clear and does not have a milky appearance, then add water and salt; cook in a steam cooker until tender, which takes about forty minutes.

If a steam cooker is not available, set the dish with the rice in a pan of hot water with a cover over the top, and cook in the oven until done.

457 BROWNEED RICE

$2\frac{3}{4}$ cups cold water	$\frac{2}{3}$ tsp. salt
1 cup browneed rice (No. 721)	

Wash the rice thoroughly until clean, and cook as directed in recipe No. 456.

458 VITOS

$1\frac{1}{2}$ qts. water	1 tsp. salt
1 cup vitos	

Cook the same as cream of wheat (No. 443). Cook from four to six hours.

459 CRACKED WHEAT

4 cups water
1½ cups cracked wheat
1 tsp. salt

Heat the water to boiling, add salt and the cracked wheat; boil rapidly until the grains do not sink to the bottom, but hang suspended in the water; then place in a double boiler and cook from six to eight hours.

460 HULLED WHEAT

$1\frac{1}{2}$ qts. water 1 tsp. salt
1 cup hulled wheat

Cook the same as cracked wheat (No. 459). Cook for twelve hours.

461 PEARL BARLEY

1½ qts. water
1 cup pearl barley
1½ tsp. salt

Cook the same as cracked wheat (No. 459). Be sure to have the water boiling when adding barley, or it will be of a dark color; cook for twelve hours.

462 RALSTON BREAKFAST FOOD

3 cups water ½ tsp. salt
1 cup Ralston breakfast food

Cook the same as cream of wheat (No. 443).

463 WHEAT GRITS

3 cups water 1 cup wheat grits 1 tsp. salt

Cook the same as cream of wheat (No. 443). Cook from six to ten hours.

464 CORNMEAL MUSH

5 cups water

1½ tsp. salt

1 cup cornmeal

Be sure to have the water boiling hot; add salt, then stir in the cornmeal, and cook until it begins to thicken; then place in a double boiler and cook from eight to twelve hours.

465 HULLED CORN OR HOMINY

Wash the hominy in cold water, then put on to cook in boiling water in a double boiler or steam cooker, and cook ten to twelve hours, when it should be thoroughly tender. Season with cream and butter and salt to taste. It is also very good made with cream sauce (No. 560), instead of adding cream.

466 CRACKED HOMINY

Wash the cracked hominy if necessary, then put on to cook in a double boiler or steam cooker and cook eight to ten hours. Season and serve the same as hulled corn (No. 465).

467 HOMINY FLAKES

1 qt. water

1 cup hominy flakes

1 tsp. salt

Heat the water to boiling and add the salt, then put in the hominy flakes and cook three to five hours in a double boiler. Serve as a cereal or vegetable.

CHAPTER XXXII.

Eggs

⁴⁶⁸ COMPOSITION OF EGGS

Protein	14.9%	Mineral matter	1.0%
Fat	10.6%	Water	73.5%

Eggs, like milk, form a typical food, inasmuch as they contain all the elements in the right proportion necessary for the support of the body. Their highly concentrated nutritive value makes it necessary to use them in combination with other foods rich in starch, such as potatoes, bread, etc.

A certain amount of bulk must be furnished in order that the stomach may have enough to act upon.

A pound of eggs is equivalent in nutritive value to a pound of beef. Eggs are rich in protein and therefore serve as a valuable substitute for meat.

White of egg contains albumen in its purest form. Albumen coagulates at a temperature of from 145° to 165° F.

We can therefore see the importance of cooking eggs at a low temperature, to render them easy of digestion. Eggs cooked in boiling water are tough and leathery, difficult of digestion, and should never be served.

⁴⁶⁹ POACHED OR DROPPED EGGS

Put a pint of water in a sauce pan on the fire to boil gently, adding a pinch of salt; now pull back where it will not boil, and keep just a little below the boiling point, and enough to cover the eggs well; break the eggs one at a time

into the dish, being careful not to break the yolks, and drop them carefully into the hot water, with the smooth side of the yolk on top.

Let stand a few minutes, until the white is firm, but not hard, and the yolk is covered with a film of white.

Remove one at a time with a skimmer, let the water drain off, and serve at once.

470 POACHED EGGS ON TOAST

Cook the same as poached eggs (No. 469), and serve on a nice piece of well toasted bread, moistened with a little hot water or cream, and a little butter spread on it if desired.

471 SHIRRED EGGS

Butter the inside of a deep plate, and break into it as many eggs as will cover the bottom; shake a little salt over them, place small pieces of butter over the top; put in a moderate oven for five minutes, or until the whites are set. Serve hot.

472 SCRAMBLED EGGS

Oil a pan, put into it as many eggs as it will hold separately, that each yolk may be entire. When the whites have become slightly hard, stir from the bottom of the pan until done. The yolks should be separate from the whites, although stirred together.

473 HARD BOILED EGGS

The usual method of preparing hard-boiled eggs is to drop them into boiling water, and boil or simmer from five to fifteen minutes, which causes the white of the egg to become hardened, tough, and leathery, and very difficult of digestion; and leaves the yolk soft or rather sticky, which, if cooked at all, is easiest digested when dry and mealy.

The most accurate method is to put the eggs into water of a temperature of from 150° to 160° F., allowing them to remain for one and a half or two hours.

If it is desired to have the yolk dry and mealy, the temperature of the water must be less, and the time of cooking lengthened; and if it is desired to have the yolk soft, lessen the time of cooking and increase the temperature.

Eggs are also very nice cooked by putting them into cold water, heating up to a little below the boiling point, and allowed to cook from thirty minutes to one hour.

When the eggs are cooked, place a moment in cold water to loosen the shell and prevent the whites becoming discolored.

It should be remembered that the time necessary to cook eggs in the shell will vary somewhat with the firmness of the shell, the size of the eggs, and the number cooked together.

474 EGGS A LA MARTIN

Dust the bottom of a baking pan lightly with flakes or toasted bread crumbs; break in the eggs, being careful to keep each one whole and not allowing them to touch each other.

Sprinkle more flakes over the eggs, and cover with cream sauce (No. 560); set in the oven about ten minutes, or until the whites are set.

Serve with parsley sauce, if desired.

475 BAKED EGGS

Break the number of eggs wanted in a dish, sprinkle with salt; half-way cover with milk or cream, put in a moderate oven, and bake until the whites are set.

476 EGG OMELET

Take two eggs and beat them up, but not too light, add one tablespoon of milk or cream and salt slightly. Put into an omelet pan or iron spider, sufficiently buttered to prevent sticking. Cook rather quickly on a clear and steady fire, being careful not to let it burn; carefully lift the edges while cooking with a broad-bladed knife that it may be equally cooked, then double one part over the other so as to meet in the center, turn bottom side up on a platter, and serve at once. The eggs may be separated and whites added last if desired to have it very light.

477 MINCED EGGS ON TOAST

1 cup milk

3 hard boiled eggs

1 tbsp. flour

Thicken the milk with the flour and stir in the eggs. Season with salt and celery salt. Serve on small pieces of toast.

478 JELLY OMELET

Prepare the same as for plain omelet (No. 476), spreading any kind of jelly or marmalade over one-half before folding it up; add a sprinkle of salt if desired, and serve hot.

479 OMELET WITH TOMATO

Prepare the same as for plain omelet (No. 476) chop some nice fresh tomatoes quite fine, spread over one-half before folding it up, add a sprinkle of salt, and serve hot.

Most any other vegetables, such as peas, beans, onions, etc., may be used instead of tomatoes.

480 FLOATED EGGS

Separate the white from the yolk; drop the yolk into hot salted water, and cook until stiff and firm; drop the stiffly beaten white into scalding water, being careful not to break it; cook one minute, turning over meanwhile to cook both sides.

Remove with a skimmer, put in a saucer, and place the hard-boiled yolk in the center.

481 SPANISH EGGS

6 eggs

3 tbsp. tomato juice

A small pinch of sage

Salt to taste

Beat the eggs well, put in a double boiler, add the tomato juice and seasoning, and cook until the consistency of custard, and serve hot, plain or on toast.

482 JELLIED EGGS

Eggs covered with boiling water and allowed to stand (not on the fire) for five minutes (well covered) are more nourishing and easier digested than eggs placed in boiling water and allowed to boil furiously for three and a half minutes.

They should drop easily out of the shell when opened, the yolks being cooked just as hard as the whites. Albumen, of which the white is composed, is easiest digested when cooked at a temperature of 160° F.

483 SOFT BOILED EGGS

Eggs may be cooked by placing them in cold water and allowing the water to heat gradually until the boiling point is reached, when they will be soft boiled.

Put some eggs in a dish and cover with boiling water (be sure that the water is boiling in the kettle, and it will be from 160° to 175° F. when reaching the eggs); cover

well and let stand from ten to thirty minutes, or longer if need be, according to the firmness of the shell and the number of eggs to be cooked together.

Cut the shell with a knife and drop in an egg glass

484 MEDIUM BOILED EGGS

If desired to have the white set, and the yolk soft, three minutes; but if the outer edges of the yolk are to be a little hardened, boil four and a half minutes. The water should be boiling when the eggs are dropped in.

The best way is to keep the water a little below the boiling temperature, and leave the eggs in for fifteen minutes, when the yolks will be about as hard as the whites.

If it is desired to have the yolk harder and the white soft, the temperature must be less and the time of cooking lengthened; and if it is desired to have the yolk softer and the white harder, increase the temperature and lessen the time of cooking.

485 ESCALLOPED EGGS

3 hard boiled eggs
1½ tbsp. ripe olives
1 cup bread crumbs
¾ cup milk

1 tbsp. butter
1 tbsp. flour
½ tsp. salt

Boil the eggs hard. Make a white sauce by melting the butter and stirring in the flour. Then add the hot milk slowly. When thickened add the salt and cook a few minutes. Oil a baking pan, place in the bottom one-fourth of the bread crumbs, then over the crumbs slice thinly three of the hard boiled eggs; add half of the chopped olives and half of the white sauce. Spread another fourth of the bread crumbs, add the remainder of the egg, the olives and the white sauce. Finish by spreading the remaining half of the crumbs on top. Bake twenty minutes in a moderately hot oven.

CHAPTER XXIV

Salads

Salad well prepared is a charming compound. All green vegetables that are eaten raw and dressed with oil, salt, or a good salad dressing are very attractive, wholesome, and agreeable; poorly prepared, is an abomination.

Almost any variety of salads may be made by combining different kinds of vegetables, or fruits, or nuts. Most cooked vegetables intended for salads are moistened with a French dressing and allowed to stand in a cold place for a time.

Salads are among the most appetizing adjuncts of a meal when carefully prepared. They supply the system with fat, mineral salts and vitamins.

There are a large number of salad dressings, but the ones most generally used are mayonnaise and French dressings for the vegetable salads, and fruit dressings or the golden salad dressing for the fruit salads.

For garnishing salads, lettuce, parsley, or water-cress are usually used. These may be arranged in various ways, and afford ample opportunity for the display of artistic taste.

To salad dressings one must give the utmost care and attention, for upon their excellence the success of the dish principally depends.

486 POTATO AND EGG SALAD

6 medium sized potatoes	3 hard-boiled eggs
1 small onion, grated	Salt to taste
$\frac{1}{2}$ cup mayonnaise dressing (No. 518)	

combining different kinds of fruits and served with lemon, orange, or fruit dressings, as may be preferred.

⁴⁹⁰ APPLE AND NUT SALAD

1 cup chopped apples	$\frac{1}{4}$ cup chopped nuts
$\frac{1}{4}$ cup golden salad dressing (No. 520)	

Mix apples and nuts together, pour over them the dressing, and mix lightly. Serve on a lettuce leaf or garnish with parsley.

⁴⁹¹ CELERY AND NUT SALAD

1 pt. chopped celery	$\frac{1}{2}$ cup chopped nuts
1 cup golden salad dressing (No. 520)	

Arrange on a salad dish or lettuce leaf, and garnish with parsley.

The dressing may be mixed in with the salad, if preferred.

⁴⁹² RADISH AND ONION SALAD

4 radishes	1 young onion
$\frac{1}{4}$ tsp. salt	2 tbsp. French dressing
(No. 527)	

Wash and scrape the radishes, cut into very thin slices, and put in a salad bowl. Slice the onion and put in with the radishes; add salt, then mix in the salad dressing.

Serve on a lettuce leaf or garnish with parsley.

⁴⁹³ PEA AND ONION SALAD

1 cup stewed peas	$\frac{1}{4}$ cup chopped onions
$\frac{1}{4}$ tsp. salt	$\frac{1}{2}$ cup French dressing
(No. 527)	

Let the peas drain, then chop the onions, add to the peas, and mix well. Set in a cold place; when ready to serve, add salt, and pour over it the dressing.

Mix well and serve on a lettuce leaf, or garnish with parsley.

494 SUMMER SALAD

2 tomatoes	1 small cucumber
2 young onions	3 turnip radishes
$\frac{1}{2}$ cup water-cress	Salt to taste
$\frac{3}{4}$ cup French dressing (No. 527)	

Slice the vegetables fine, and chop the water-cress rather fine; then mix all together, or put in layers.

Serve on a lettuce leaf in individual dishes.

495 WALDORF SALAD

1 cup chopped celery	$\frac{1}{4}$ cup sugar
$\frac{1}{2}$ cup chopped walnuts	2 cups apples
$\frac{1}{2}$ cup golden salad dressing (No. 520)	

Blanch the walnuts before chopping by pouring boiling water over them and let stand a few minutes. This will prevent the salad from turning dark.

Cut the apples into small pieces, then mix all together; pour over it the salad dressing and mix well.

Serve on a lettuce leaf or garnish with water-cress.

496 ORANGE AND PINEAPPLE SALAD

2 oranges	1 pineapple
1 cup red fruit sauce	

Slice the oranges and pineapples fine; place in alternate layers on a small plate, pour over it a spoonful or two of the fruit sauce, and garnish with parsley or lettuce.

⁵⁰¹ NUT AND POTATO SALAD

1 cup potatoes	$\frac{1}{3}$ cup mayonnaise dressing
$\frac{1}{2}$ cup nuttolene	(No. 518)
	Salt to taste

Dice the potatoes into half-inch cubes and steam, set away to cool; then dice the nuttolene into half-inch cubes, add to the potatoes, salt to taste, and mix with the dressing, and garnish with parsley.

⁵⁰² GREEN PEA SALAD

2 cups green peas	$\frac{3}{4}$ cup chopped nuttolene
1 tbs. butter	$\frac{1}{3}$ cup salad dressing (No. 518)
2 cups water	
Salt to taste	A few lettuce leaves

Shell the peas, put in a sauce pan, and cook slowly with the water and butter until tender. When done, take them off the fire and leave until cold.

Thoroughly wash and drain the lettuce; pull the leaves apart, and put them into a salad dish, then brown the chopped nuttolene a little in the oven, spread it over the top of the lettuce, and pour the peas over it.

Pour the salad dressing over it all, toss lightly and serve.

⁵⁰³ APPLE AND PINEAPPLE SALAD

1 cup dried apples	1 cup diced pineapples
1 lemon, juice	$\frac{1}{2}$ cup sugar
	$\frac{1}{2}$ cup pineapple juice

Boil the pineapple juice, lemon juice, and sugar together a few minutes; then cool, and pour it over the fruit.

Serve on a salad plate, and garnish with parsley.

⁵⁰⁴ NUT AND PEACH SALAD

Slice cooked peaches into thin slices lengthwise. Place on a salad plate, letting them come together in the center, and fill the space between them with pieces of walnuts.

Serve with a red fruit dressing, and garnish with parsley.

⁵⁰⁵ DATE AND BANANA SALAD

- | | |
|-------------------------|-------------------------|
| 1 cup diced bananas | $\frac{2}{3}$ cup dates |
| 1 tsp. salad oil | 1 tbsp. lemon juice |
| $\frac{1}{4}$ cup sugar | $\frac{1}{2}$ cup water |

Seed the dates and cut them lengthwise, then mix with the bananas. Cook the lemon juice, water, and sugar together for a few minutes; let cool, then mix all together.

Serve on a lettuce leaf on individual dishes.

⁵⁰⁶ APPLE SALAD

Pare and dice nice tart apples; add a few chopped nuts and celery if desired. Mix with sweet salad dressing (No. 528), and arrange on a lettuce leaf on individual dishes.

⁵⁰⁷ PINEAPPLE SALAD

Arrange the sliced pineapple on a lettuce leaf, using one slice for each serving. Sprinkle walnuts over the fruit and serve. Garnish with lettuce leaves or parsley.

Very nice served with cranberry dressing.

⁵⁰⁸ VEGETABLE SALAD

- | | |
|-----------------------|-----------------------------------|
| 1 medium sized carrot | 3 small radishes |
| 1 cup celery | $\frac{1}{2}$ cup cabbage |
| 1 onion | $\frac{1}{2}$ cup French dressing |
| | (No. 527) |

Cut the vegetables all up in small cubes or shreds. Then mix together with the dressing. Serve on a lettuce leaf or garnish with parsley.

509 PEA AND TOMATO SALAD

3 tomatoes	$\frac{1}{2}$ cup mayonnaise dressing
$\frac{1}{2}$ cup nuttolene	1 cup green peas
Salt to taste	

Peel the tomatoes and scoop out the center; fill up with the peas and nuttolene cut in small pieces; put a little mayonnaise dressing on top of each tomato, and serve on a lettuce leaf.

510 MACEDOINE SALAD

1 medium sized carrot	3 tbsp. French beans
1 medium sized turnip	2 tbsp. sweet oil
3 tbsp. cooked peas	$1\frac{3}{4}$ tbsp. lemon juice

Peel and wash the turnip and carrot well and cut them with a vegetable scoop, put them into boiling salted water, and cook the carrot fifteen minutes and the turnip ten minutes.

Drain well, let them cool, and place in a salad dish; add the cooked peas and beans cut into small pieces; then add salt, oil, and lemon juice.

Mix all together well and turn into a salad dish, or put in individual dishes and decorate with cooked cauliflower or a few asparagus tops, and serve at once.

511 BRAZILIAN SALAD

1 cup Brazil nuts	2 cups pineapples
$\frac{1}{3}$ cup fresh cherries	2 cups bananas
$\frac{1}{4}$ cup lemon juice	$\frac{1}{3}$ cup sugar

Slice or chop the nuts fine, then dice the fruit into one-third inch squares, and mix all together; sprinkle sugar on top and pour the lemon juice over it and mix well, but do not mash the fruit.

Serve on lettuce leaf or garnish with parsley.

Blanch the nuts same as for Waldorf Salad (No. 495).

512 ROYAL SALAD

1 cup nuttolene $\frac{1}{4}$ cup celery, diced fine
 $\frac{1}{2}$ cup mayonnaise dressing (No. 518)

Dice the nuttolene fine and brown in the oven a delicate brown. Set away to cool, then add the celery and a little salt; then add the mayonnaise dressing, and mix well. Serve on a lettuce leaf or garnish with parsley.

513 MOCK CHICKEN SALAD

$\frac{1}{2}$ cup protose $\frac{1}{2}$ cup nuttolene
 $\frac{1}{4}$ cup celery, diced fine $\frac{1}{2}$ cup mayonnaise dressing

Dice the nuttolene and protose fine and brown in the oven a delicate brown. Set away to cool; then add the celery and a little salt; then add the mayonnaise dressing, and mix well.

Serve on a lettuce leaf or garnish with parsley.

514 SALAD IN SURPRISE

Wash a tomato, cut the top nearly off, scrape out the center, and fill with mock chicken salad (No. 513); then put a little mayonnaise dressing (No. 518) on top, and put the top of the tomato back in place again, and serve on a lettuce leaf.

515 WATER-CRESS SALAD

2 tbsp. lemon juice	Pinch of salt
3 bunches fresh water-cress	

Pare the stalks of the water-cress, clean, dry in a cloth, place in a salad dish; add lemon juice and salt. Mix thoroughly and serve.

Water-cress salad requires no oil.

516 POTATO SALAD

1 cup diced potatoes	$\frac{1}{4}$ cup mayonnaise dressing
$\frac{1}{4}$ tsp. grated onion	Salt to taste

Steam or cook potatoes, set away to cool; then mix all together, and carefully stir in the dressing, without breaking the potatoes.

Serve on a lettuce leaf or garnish with parsley.

517 WATER LILY SALAD

3 hard boiled eggs	2 tsp. lemon juice
2 tsp. butter	$\frac{1}{4}$ tsp. salt

Cut eggs in halves lengthwise. Remove the yolks, mash and add butter, salt and the lemon juice. Cut each of the halves of the whites lengthwise into three sections. Place these sections on a lettuce leaf around the central portion to represent the petals of a lily. In the center, place a spoonful of the yolk mixture formed into a ball to represent the center of each lily.

CHAPTER XXV

Salad Dressings

⁵¹⁸ MAYONNAISE DRESSING, NO. 1

4 eggs	$\frac{2}{3}$ cup lemon juice
1 tsp. salt	$\frac{1}{2}$ cup mazola or butter
3 tbsp. cornstarch	$\frac{1}{4}$ tsp. celery salt
$\frac{1}{4}$ cup sugar	1 cup cold water

Beat the eggs, add salt, celery salt, butter or oil, and the cornstarch, which has been dissolved in the water; and, last, add the lemon juice; mix well, then put in a double boiler, and cook until it thickens, stirring constantly to have it smooth.

Remove from the fire and stir until it is cool; this is best done by setting the dish in cold water and stirring until cool.

⁵¹⁹ CREAM SALAD DRESSING

$\frac{1}{2}$ cup cream	2 tbsp. sugar
1 egg	Pinch of salt
2 tbsp. lemon juice	

Beat up the egg, add cream, sugar, and salt. Cook in a double boiler until it thickens like custard.

When done, add the lemon juice slowly, and stir well.

⁵²⁰ GOLDEN SALAD DRESSING

$\frac{2}{3}$ cup lemon juice	4 eggs
4 tsp. cornstarch	1 cup water
$\frac{1}{2}$ cup sugar	Pinch of salt

Beat the eggs, add salt, sugar, and the cornstarch which has been dissolved in the water, and, last, add the lemon juice.

Cook in a double boiler, the same as mayonnaise dressing (No. 518).

521 WHITE MAYONNAISE DRESSING

1 tbsp. lemon juice	6 tbsp. mazola or butter
1 egg, light colored	Pinch of salt
6 tbsp. whipped cream	

Beat the egg, add salt and oil slowly; beat well, stir in slowly the lemon juice; then stir in the whipped cream.

Serve with Waldorf salad. It should be as white as whipped cream.

522 WHITE SALAD DRESSING

3 egg whites	$\frac{1}{2}$ cup pineapple juice
$\frac{1}{2}$ cup sugar	1 tsp. cornstarch
$\frac{1}{2}$ tsp. lemon juice	

Heat the juice to boiling, add cornstarch (rubbed smooth in a little cold water) and sugar slowly; pour over the stiffly beaten egg white, and beat until cool.

523 LEMON DRESSING

$\frac{1}{2}$ cup lemon juice	4 eggs
$\frac{1}{2}$ tbsp. sugar	1 tsp. salt

Beat up the eggs, add salt, sugar, and lemon juice; then cook in a double boiler as for mayonnaise dressing (No. 518).

524 MAYONNAISE DRESSING, NO. 2

2 eggs	1 cup mazola
2 tbsp. lemon juice	A few grains of salt

Have the eggs and dishes thoroughly chilled; put the eggs into a bowl, add a few drops of lemon juice; stir in a rotary motion with a silver fork, and as soon as the lemon juice is blended with the eggs, pour in while beating, the oil in a slow stream.

When the oil is used up, stir in the lemon juice and salt.

If the dressing is a little too thin by the addition of the lemon juice, stir in a little more oil. When done, it should be a rich cream color. Set on ice until wanted.

525 MINT SALAD DRESSING

4 mint leaves	2 tbsp. mazola
$\frac{1}{4}$ tsp. sugar	$\frac{1}{8}$ tsp. salt
2 tbsp. lemon juice	

Mix together the lemon juice, oil, sugar, and salt; then chop fine the mint leaves and add them.

Mix well before using, so that the oil and lemon juice do not separate.

526 COOKED FRENCH DRESSING

$\frac{1}{4}$ cup lemon juice	1 egg
$\frac{1}{4}$ cup sugar	Pinch of salt

Boil lemon juice, sugar, and salt together until the consistency of thin syrup and hardens when dropped in cold water.

Pour it slowly over the egg, which has been beaten separately and folded together. If a white dressing is desired, omit the egg yolk.

527 FRENCH DRESSING

4 tbsp. mazola	1 tsp. sugar
2 tbsp. lemon juice	$\frac{1}{2}$ tsp. salt

Mix all together and stir vigorously until well blended; this is best done by putting it in a bottle or glass jar and

shaking it well until it does not separate; or beat the oil and pour the lemon juice in while beating; then pour over the salad.

A little onion juice and finely chopped parsley may be added, if desired.

528 SWEET SALAD DRESSING .

1½ cups water	¼ cup sugar
½ tsp. salt	¼ cup lemon juice
½ cup almond butter or 2 tbsp. dairy butter	

Emulsify the almond butter in the water, let boil a few minutes, then add the sugar, salt, and lemon juice.

529 LEMON AND NUT SALAD DRESSING

½ cup lemon juice	1 egg white
½ cup sugar	¾ cup shelled nuts

Heat the lemon juice and sugar to boiling, then pour over the well-beaten egg. Pour this over the salad and garnish with lettuce or parsley and the nuts; or the nuts may also be added to the syrup and boiled a few minutes.

CHAPTER XXVI

Sauces and Gravies

530 ORANGE SAUCE

$\frac{1}{4}$ cup butter	$\frac{1}{2}$ grated orange rind
1 cup sugar	1 pt. water
2 egg yolks	1½ tbsp. cornstarch
Juice of one lemon	Juice of two oranges
Pinch of salt	

Heat water to boiling, add sugar and butter; then stir in the cornstarch, rubbed smooth in a little cold water, then add a pinch of salt, lemon juice, orange juice and rind.

When the corn starch is sufficiently cooked pour it over the beaten yolks, and cook a few minutes longer.

531 PINEAPPLE SAUCE

1 cup water	3 egg whites
$\frac{2}{3}$ cup sugar	1 cup pineapple juice
$\frac{1}{2}$ cup pineapple pulp	1½ tbsp. cornstarch
Juice of one lemon	

Mix all together, heat to boiling and thicken with the cornstarch, rubbed smooth in a little cold water.

Cook until cornstarch is thoroughly cooked, then pour over the beaten egg whites if desired.

532 HOLLANDAISE SAUCE

$\frac{1}{3}$ cup butter	$\frac{1}{4}$ cup cooking oil
$\frac{1}{3}$ cup flour	$\frac{1}{2}$ cup lemon juice
4 egg yolks	1½ qts. boiling water

Rub the butter and flour together until smooth, add slowly the water, stirring constantly; boil thoroughly, remove from fire, add lemon juice, oil and eggs.

Boil a few minutes and salt to taste.

533 NUTTOLENE SAUCE

1 pt. cream	1 cup minced nuttolene
1 pt. water	1½ tbsp. flour

Emulsify the nuttolene in the water, add the hot cream, heat to boiling and stir in the flour, rubbed smooth in a little cold water.

Cook a few minutes and salt to taste.

534 CUSTARD SAUCE

1 pt. milk	½ tbsp. cornstarch
2 eggs	Pinch of salt

Sugar and flavor to taste

Heat the milk in a double boiler, add cornstarch, rubbed smooth, in a little cold milk or water. Cook a few minutes; then pour over the beaten eggs, and cook a few minutes longer. Season and serve.

535 BROWN TOMATO GRAVY

1½ cups tomato juice	2½ tbsp. butter
3 tbsp. brown flour	2 tbsp. white flour

Melt the butter, stir in the flour, stirring until smooth, then add the hot tomato juice, and cook a few minutes.

Season with thyme and salt to taste.

536 EGG SAUCE

Make the same as cream sauce (No. 560); beat one egg and add to the sauce, and mix well. Or put a hardboiled

egg through a colander or chop fine, and add to the sauce.
Salt to taste just before serving.

⁵³⁷ PARSLEY SAUCE

Make the same as cream sauce (No. 560), and add finely chopped parsley just before serving.

⁵³⁸ TOMATO GRAVY

1 pt. water	$\frac{1}{4}$ cup tomato juice
$\frac{1}{2}$ tsp. celery salt or paprika	$\frac{1}{2}$ tbsp. cooking oil

Mix into this enough granose flakes to thicken into gravy, add some pieces of rather brown zwieback, and allow all to boil up well.

Strain to make smooth, season to taste and serve. Half brown and white flour may be used instead of the flakes, and zwieback if preferred.

⁵³⁹ NUT GRAVY

1 tbsp. nut butter	1 tbsp. cooking oil
2 cups hot water	1 tbsp. brown flour
2 tbsp. white flour	Salt to taste

Emulsify the nut butter in a little cold water, then melt the butter, and stir in the flour, add hot water and nut butter, stir until smooth, cook a few minutes and season.

⁵⁴⁰ NUT TOMATO GRAVY

2 tbsp. flour	2 tbsp. nut butter
$1\frac{1}{2}$ pts. strained tomato	Salt to taste

Emulsify the nut butter in a little cold water, then add tomato; heat to boiling and stir in the flour, rubbed smooth in a little cold water. Cook a few minutes and salt to taste.

541 BECHAMEL SAUCE

2 tbsp. butter	2 tbsp. flour
$\frac{1}{2}$ cup milk	$\frac{1}{2}$ cup potato water
A few drops onion juice	Salt to taste

Melt the butter in a sauce pan, stir in the flour; add the milk and potato water, then stir until smooth. Cook a few minutes, and season to taste.

542 COLD MINT SAUCE

$\frac{1}{2}$ cup lemon juice	3 tbsp. sugar
3 tbsp. finely chopped young mint leaves	

Rub chopped mint leaves and sugar together, when thoroughly mixed add gradually the lemon juice, and it is ready to serve.

543 BROWN GRAVY

1 cup potato water	1 tbsp. white flour
$1\frac{1}{2}$ tbsp. brown flour	$2\frac{1}{2}$ tbsp. mazola

Make the same as brown tomato gravy (No. 535); omitting the tomato juice.

544 CELERY SAUCE

Make the same as cream sauce (No. 560), and add finely chopped celery, previously cooked, before serving.

545 TOMATO SAUCE

$1\frac{1}{2}$ cups tomato juice	2 tbsp. butter
2 tbsp. white flour	Pinch of thym.

Make the same as brown tomato gravy (No. 535), omitting the brown flour. Salt to taste and serve.

546 BROWN ONION GRAVY

$\frac{1}{3}$ cup mazola	$\frac{1}{3}$ cup flour
1 cup milk	1 cup water
Salt to taste	2 tbsp. brown onion flavor (No. 736)

Melt the butter, stir in the flour and cook together until slightly browned, then add the hot water and milk. Cook until smooth and thickened; then add the brown onion flavor and salt to taste.

547 PROTOSE AND TOMATO SAUCE

1 qt. water	$\frac{2}{3}$ cup minced protose
1 minced onion	2 tbsp. butter
$\frac{1}{2}$ cup brown flour	$\frac{1}{4}$ cup white flour
1 cup tomato juice	Salt and celery salt to taste

Put the water, butter and onion on the stove, when it begins to boil, add the protose and simmer for thirty minutes.

Then place where it will boil, add the flour, rubbed smooth in the tomato juice. Cook a few minutes and season to taste.

548 AMBER SAUCE

1 qt. water	1 small bay leaf
1 cup sugar	2 lemons

Heat water to boiling, add the bay leaf and lemons, sliced and the seeds removed, thicken with a very little corn-starch and boil twenty minutes, remove the lemons and bay leaf and add the sugar.

549 CRANBERRY SAUCE

Wash thoroughly until clean some cranberries, put in a stew pan and cover with boiling water, cover and let stand

five minutes, then drain off the water and just cover with boiling water and cook five minutes after coming to a boil; strain through a fine strainer or cheese cloth, put on the stove again and thicken with cornstarch and sweeten to taste.

550 BANANA CREAM SAUCE

Put bananas through a colander and pour over enough cream to make it the consistency of rich cream.

A little sugar may be added if desired.

551 CREAM SAUCE FOR CUSTARD

1 pt. milk
 $\frac{1}{4}$ cup sugar

4 tbsp. cornstarch
Vanilla flavor

Heat the milk to boiling, thicken with the cornstarch; let cook fifteen minutes, a double boiler is best, then add sugar and a pinch of salt. Flavor and color pink if desired.

552 VANILLA SAUCE

1 pt. water
1 cup sugar
 $\frac{3}{4}$ tbsp. vanilla

$\frac{1}{4}$ cup flour
 $\frac{1}{2}$ cup melted butter
Small pinch of salt

Rub the flour smooth in the butter; then add the boiling water slowly, stirring all the time, set on the fire and cook fifteen minutes or until the flour is thoroughly cooked, then add sugar and vanilla.

553 PEACH SAUCE

1 $\frac{1}{2}$ cups peach juice
1 tbsp. lemon juice

$\frac{1}{2}$ cup sugar
4 egg whites

Boil peach juice and sugar together until the consistency of thin syrup, add the lemon juice and pour over the well beaten eggs; beating until it is cold.

Any other kind or combination of fruit juice may be used as desired.

554 LEMON SAUCE

1 pt. water	$\frac{1}{2}$ cup lemon juice
1 cup sugar	4 tbsp. cornstarch
1 tbsp. butter	Pinch of salt
2 egg yolks	1 tsp. lemon flavor

Make the same as orange sauce (No. 530). If a stronger flavor is desired add the grated rind of one lemon.

555 BROWN CREAM SAUCE

1 pt. milk	1 pt. cream
$\frac{1}{3}$ tsp. salt	4 tbsp. white flour
4 tbsp. brown flour	

Heat the milk to boiling in a double boiler, thicken with the flour, rubbed smooth in a little cold water.

Cook thirty minutes, then add salt.

556 LENTIL SAUCE

$\frac{2}{3}$ cup lentil pulp	1 tbsp. nut butter or flour
$\frac{1}{2}$ cup hot water	Salt to taste

Heat the water to boiling, stir in the lentil pulp, thicken with nut butter or flour; cook a few minutes longer, and season to taste.

557 SAUCE IMPERIAL

1 pt. tomato juice	2 tsp. nut oil
$\frac{1}{4}$ tsp. salt	1 sprig of parsley
1 bay leaf	4 tsp. flour
1 tsp. grated onion	A small pinch of thyme

Heat the tomato juice, add parsley, onion and bay leaf; cook a few minutes and strain. Put oil in a pan, heat until hot but not scorched.

Add the flour and stir until smooth, then add the hot tomato juice slowly; stirring until creamy and well cooked. Season and serve.

558 MELTOSE SAUCE

$\frac{1}{2}$ cup meltose	$\frac{1}{2}$ cup strawberry juice
$\frac{1}{2}$ cup lemon juice	2 tbsp. flour

Mix the strawberry juice and meltose together, put on the stove and heat to boiling; then add the flour which has been stirred smooth in a little cold water.

Let cook a few minutes, and add the lemon juice. The strawberry juice and flour may be omitted, and the hot meltose poured over the stiffly beaten whites of two eggs,—beating until white, and served as cold sauce.

559 IDEAL CHILI SAUCE

1½ qts. tomatoes	1 large onion, sliced
2 tsp. sugar	$\frac{1}{2}$ lemon and rind
4 tsp. cornstarch	$\frac{2}{3}$ tsp. salt
1 tsp. celery salt	$\frac{1}{2}$ tsp. paprika
$\frac{2}{3}$ tsp salt	

Cook all together for about three hours, or until of the right consistency, then press through a fine colander to remove skins and seeds.

560 CREAM SAUCE

2 tbsp. butter	2 tbsp. flour
1 cup hot milk	Salt to taste

Melt the butter in a sauce pan, stir in the flour; add milk and stir until perfectly smooth, using a wire whip.

Cook a few minutes, and salt just before serving.

⁵⁶¹ CHOCOLATE FUDGE SAUCE

- | | |
|---------------------------------|-------------------|
| 2 tbsp. chocolate | 1 cup sugar |
| $\frac{3}{4}$ cup boiling water | 1 tsp. cornstarch |

Melt the chocolate in part of the water. Sift the cornstarch and sugar together, then stir all together and cook five minutes, flavor with vanilla and serve.

⁵⁶² WHITE SAUCE

- | | |
|----------------|---------------|
| 2 tbsp. butter | 2 tbsp. flour |
| 1 cup milk | Salt to taste |

Rub the butter and flour together until smooth, then slowly pour over them the hot milk. Cook slowly, stir until smooth and thickened.

Salt to taste and serve.

⁵⁶³ MOCK CHICKEN GRAVY

- | | |
|--------------------|---------------|
| 2 tbsp. butter | 2 tbsp. flour |
| 1 cup potato water | Salt to taste |

Melt the butter and stir in the flour, stir until smooth and very slightly browned. Then add the potato water and cook until smooth and thickened. Salt to taste and serve.

A little celery salt may be added if desired. One egg may be browned in oil and chopped fine and added.

⁵⁶⁴ MOCK BEEF GRAVY

- | | |
|--------------------------------|---------------------------|
| $\frac{1}{2}$ cup butter | $\frac{1}{2}$ cup flour |
| 1 pt. potato water | 2 tsp. brown onion flavor |
| $\frac{1}{4}$ tsp. celery salt | |

Melt the butter, stir in the flour and cook together until quite well browned, then add the potato water. Cook until smooth and thickened; then add the flavor and salt to taste.

CHAPTER XXVII

Toasts

Toasts are, when properly prepared, nutritious and appetizing, and far more wholesome than the fried mushes and griddle cakes which are so often partaken of. Zwieback should be used as the foundation of all toasts, prepared as directed in (No. 728).

Following are a few kinds of toasts, which will suggest others equally as good, and may be prepared by most any one.

⁵⁶⁵ CHERRY TOAST

1 pt. canned cherries	$\frac{1}{2}$ cup water
2 tsp. cornstarch	Sugar to taste

Mix water and cherries together, heat to boiling and thicken with the cornstarch; add sugar to taste, and pour over slices of well browned dry toast. Fresh cherries may be used instead of the canned. Strawberries, raspberries, blackberries, blueberries, cranberries or currants may be used in the same way, being careful not to break the berries.

⁵⁶⁶ GRAPE TOAST

Stem well ripened grapes, wash well and stew about fifteen minutes; then rub through a colander to remove seeds and skins, add a little more water, heat to boiling and thicken with cornstarch and add sugar to taste.

When ready to serve pour a small quantity over each slice of dry toast or zwieback, which should be first moistened with a little hot water.

567 CREAM TOAST

Heat rich milk or cream to boiling; place a slice of zwieback or dry toast on a saucer or in a soup bowl, soften by pouring a little hot water over or dip quickly in hot water or milk; sprinkle with salt if desired, pour over enough of the hot cream to cover well and serve.

568 PRUNE TOAST

$\frac{2}{3}$ cup water	$\frac{1}{2}$ tbsp. cornstarch
1 cup prune marmalade	Sugar to taste
1 tsp. lemon juice if preferred	

Mix the marmalade and water together, heat to boiling, then thicken with the cornstarch. Let cook about ten minutes and sweeten to taste. Serve hot on a slice of zwieback on individual plates.

569 APRICOT TOAST

$1\frac{1}{2}$ cups stewed apricots	$\frac{3}{4}$ cup water
2 tbsp. cornstarch	Sugar to taste

Put the apricots through a colander, add the water, put on the stove and heat to boiling, then thicken with cornstarch, sweeten to taste, and serve on slices of zwieback which have been moistened in hot water. Pears, peaches, apricots or plums may be used.

570 NUT GRAVY TOAST

1 tbsp. nut butter	1 pt. water
4 tbsp. white flour	

Emulsify the nut butter in cold water, adding a little at a time; mix until very smooth, put on stove and heat to boiling, then add the flour, rubbed smooth in a little cold water, boil a few minutes and serve on dry toast or zwieback the same as cream toast (No. 567).

571 DATE TOAST

- | | |
|----------------------|-------------------------|
| 1 cup date marmalade | $\frac{2}{3}$ cup water |
| 1 tsp. cornstarch | 1 tsp. lemon juice |

Mix the marmalade and water together, heat to boiling, and thicken with the cornstarch. Serve hot on moistened slices of zwieback.

572 ASPARAGUS TOAST

Select very tender asparagus, cut in one-fourth inch lengths, and stew until tender. Salt while cooking; pour over the cooked asparagus a thin milk gravy; salt to taste and serve on pieces of zwieback on pie plates.

573 BANANA TOAST

Peel some nice ripe bananas and press through a fine colander, then add milk or fruit juice enough to make it about the consistency of rich cream, heat to boiling in a double boiler and thicken with a little cornstarch, rubbed smooth in a little cold water.

Sweeten to taste and serve on pieces of zwieback or dry toast on individual plates. May also be served by slicing the bananas fine and putting in the thickened liquid instead of putting them through a colander.

574 APPLE TOAST

- | | |
|---------------------------|----------------|
| 1 cup water | Sugar to taste |
| 1 cup fresh stewed apples | |

Cook the apples in as little water as possible until tender. Stir often when nearly done to prevent burning, then put through a colander to remove cores and skins, and sweeten to taste.

Moisten slices of zwieback by dipping them into a dish of hot water, then place them on individual pie plates and

cover with the hot apples. A little lemon juice may be added if preferred.

575 TOMATO TOAST

1½ cups strained tomatoes	4 tbsp. cornstarch
½ cup water	Salt to taste

Heat the tomato juice and water to boiling, thicken with the cornstarch; let cook ten minutes, then salt to taste, and add a little sugar if desired. Serve on pieces of zwieback moistened in hot water.

576 SNOWFLAKE TOAST

1 qt. milk	2½ egg whites
5 tbsp. flour	Salt to taste

Heat the milk in a double boiler, thicken with the flour, rubbed smooth in a little cold milk, and cook thirty minutes; then pour over the egg whites beaten to a stiff froth.

Put back in the double boiler and set on the stove to cook for ten minutes, when it will rise and be very light. Salt to taste, and serve at once on moistened toast or zwieback.

577 RAISIN TOAST

Wash and soak seedless raisins in sufficient cold water to cover them well for about three hours. Then put on to cook in the same water; stew gently until perfectly tender, add a little more water, thicken with cornstarch to the consistency of thin gravy.

Sweeten to taste, and serve on moistened toast or zwieback. The addition of a little lemon juice will be an improvement.

578 CELERY TOAST

Take cream sauce (No. 560), and add finely chopped celery (previously cooked). Serve at once on moistened toast or zwieback.

579 FIG TOAST

2 tsp. cornstarch

$\frac{2}{3}$ cup water

1 cup fig marmalade

1 tbsp. sugar

Mix the marmalade and water together, heat to boiling, and thicken with the cornstarch. Sweeten to taste and serve hot on moistened slices of zwieback.

CHAPTER XXVIII

Fruits

580 COMPOSITION OF COMMON FRUITS

	Water.	Pro- tein.	Carbo- hydrates.	Mineral Matter.	Acids
Pears	83.9	0.4	11.5	0.4	0.1 Malic
Apricots	85.0	1.1	12.4	0.5	1.0 Malic & citric
Peaches	88.8	0.5	5.8	0.6	0.7 Malic
Plums	78.4	1.0	14.8	0.5	1.0 Malic & tartaric
Cherries	84.0	0.8	10.0	0.6	1.0 to 1.5 Malic & citric
Gooseberries	86.0	0.4	8.9	0.5	1.5 Malic & citric
Currants	85.2	0.4	7.9	0.5	1.4 Malic & citric
Strawberries	89.1	1.0	6.5	0.7	1.0 to 1.5 Malic & citric
Blueberries	76.3	0.7	5.8	0.4	1.0 Malic
Blackberries	88.9	0.9	5.2	0.6	1.0 Malic
Raspberries	84.4	1.0	5.2	0.6	1.4 Malic & citric
Cranberries	86.5	0.5	3.9	0.2	2.0 to 2.5 Malic, citric & oxalic
Mulberries	84.7	0.3	11.4	0.6	1.8 Malic
Grapes	79.0	1.0	15.5	0.5	0.5 to 1.5 Tartaric
Watermelons	92.9	0.3	6.5	0.2	
Cantaloupes	89.5	0.6	9.3	0.6	
Bananas	74.0	1.5	22.9	0.9	
Orange juice	85.0		10.8	0.4	1.93 Citric
Lemon juice	90.0		2.0	0.4	7.0 Citric
Pineapples	89.3	0.4	9.7	0.3	1.3 Tartaric & citric
Dates	20.8	4.4	65.7	1.5	
Prunes	26.4	2.4	66.2	1.5	0.1 to 1.2 Malic
Figs	20.0	5.5	62.8	2.3	0.2 Malic
Apples	82.5	0.4	12.5	0.4	1.0 to 2.5 Malic
Dried apples	36.2	1.4	49.1	1.8	3.6 Malic
Raisins	14.0	2.5	74.7	4.1	2.3 Malic

581 BAKED APPLES

Take good tart apples, wash well, leaving on the stem but cut off all the bad spots or defects.

Place in a granite baking dish, sprinkle with sugar and add hot water enough to about half cover the apples.

Bake in a moderate oven until tender but not mushy. Serve hot or cold.

582 BAKED BANANAS

Peel the bananas, leave whole, roll in fruit juice or beaten eggs, then in bread crumbs. Bake from five to ten minutes in a hot oven.

Or peel them and place in an oiled tin, spread the top with butter, and bake in a hot oven ten minutes until tender and slightly browned.

Or place in an agate or granite pan, cover with fruit juice, which has been thickened a little with cornstarch and sweetened to taste, then put in the oven and bake thirty minutes.

583 BAKED APPLE SAUCE

Pare and quarter nice good apples. Put in a baking pan, add a little water; cover so as to keep in all the steam.

Add sugar while baking according to the tartness of the apples.

Bake until perfectly tender, remove from the oven and serve in individual dishes.

584 STEWED PINEAPPLES

Pare, cut into thin slices, put into a stew pan, cover with cold water, then put on the stove.

After coming to a boil let simmer one hour, then add a little sugar and cook fifteen minutes longer. Serve hot or cold.

⁶⁸⁵ SLICED PINEAPPLES

Pare, cut into thin slices, put into a dish, and sprinkle with sugar and add a little water if desired.

Let stand in a cool place for three hours, then serve.

⁶⁸⁶ BAKED PRUNES

Take a quantity of prunes, pour scalding water over them, then wash thoroughly in cold water. Add cold water to cover them, cover closely and cook slowly until tender; if a rich syrup is desired uncover and cook briskly.

Turn into an agate pan, sprinkle a little sugar over the top and bake twenty minutes.

⁶⁸⁷ STEWED PRUNES

Take a quantity of prunes, pour scalding water over them; then wash thoroughly in cold water.

Cover with cold water and soak over-night; in the morning put on the stove (in the same water they were soaked in) and cook slowly from two to six hours until perfectly tender (not mushy) and a rich syrup forms.

Leave uncovered after the water comes to a boil for the steam to evaporate and form a syrup.

Apricots and raisins, or any other dried fruit may be treated in like manner.

⁶⁸⁸ STEWED CRANBERRIES

1 pt. cranberries

1 cup water

1 cup sugar

Wash the cranberries, then soak in boiling water about five minutes—covering the dish well; this will take away the strong acid flavor.

Then drain off the water, put on to cook in the hot water and cook until they crack, add the sugar and cook a few minutes longer.

⁵⁸⁹ JELLIED CRANBERRIES

1 pt. cranberries

1 cup sugar

1 cup water

Prepare the same as for stewed cranberries (No.588). Put on to cook in the hot water; cook until they crack, then add the sugar, and cook until the juice thickens or about eight minutes after coming to a boil.

Wet a dish or mold in cold water and fill it with the cranberries, when cold they will turn out nice and firm like jelly.

Vegetable gelatine may also be used if preferred.

⁵⁹⁰ APPLE SAUCE

Pare and quarter nice apples, cook in a small quantity of water, cover and simmer gently so that the top portion will steam tender as soon as the bottom; a few minutes before they are done add sugar to taste, be careful not to break them up.

If sweet apples are used no sugar is needed, but they must cook much longer.

If a nice smooth apple sauce is desired put them through a colander after they are cooked.

⁵⁹¹ BAKED SWEET APPLES

The Talman sweet apple is the best for baking. Take some that are about of a size, and not wormy; wash well and leave on the stem, but cut off all the bad spots and defects.

Place in a granite baking dish and add hot water enough to about half cover the apples; bake in a moderately hot oven for three hours, until they are very soft clear through, when they will be sweet and juicy.

592 STEAMED FIGS

Take nice large figs (the Smyrna brand is best), cut off the stems and defects; wash in warm water, put in a colander and place over a dish of boiling water, cover well and let steam for thirty minutes, or until of a light brown color.

593 STEWED FIGS

Prepare the same as for steamed figs (No. 592); put in a stew-pan, cover with hot water and gently stew until tender; set away to cool and serve.

594 STEAMED DATES

Take nice large dates, wash in cold water and steam the same as steamed figs (No. 592).

595 DRIED APRICOTS

Look over and wash well, some good apricots, soak over-night in cold or warm sweetened water, and cook in the same water they were soaked in.

Simmer gently for three or four hours until perfectly tender. Be careful to keep the fruit in as natural a condition as possible.

596 DRIED APPLES

Cook same as dried apricots (No. 595). The dried fruit should be brought back to its natural or original condition as near as possible before cooking.

The same is true of any kind of dried fruit.

597 HOW TO PREPARE GRAPE FRUIT

Wipe grape fruit and cut in halves crosswise. With a small sharp pointed knife make a cut, separating pulp

from skin around entire circumference; then make cuts separating pulp from tough portion which divides fruit into sections.

Remove tough portions in one piece which may be accomplished by one cutting with scissors at stem or blossom end close to skin.

Sprinkle fruit pulp left in grape fruit skin with sugar. Set on ice ten minutes. Place on fruit plate and garnish.

598 HOW TO KEEP GRAPES

Grapes may be preserved for two or three months by selecting perfect bunches that have no decayed ones attached and carefully packed in saw dust, using sufficient of the packing so that the fruit does not touch the barrel, or the bunches come in contact.

599 HOW TO SERVE RASPBERRIES

These are perhaps the most delicate of soft fruits, and require careful handling. As a rule they do not require washing, but it is always best to wash all fruit before using.

Put them into a colander, and lift them carefully in and out of the water just before serving.

Heap lightly in a glass bowl or deep dish.

600 HOW TO SERVE STRAWBERRIES

Just before serving, put the strawberries into a colander, lift the colander in and out of cold water three or four times; stand on a plate or shallow dish for the water to drain off, and quickly stem or hull the berries, or they may be stemmed before washing.

601 HOW TO SERVE CANTALOUPE

Wash and wipe a melon and cut in halves crosswise. Remove seeds and stringy portions; put one-half melon on fruit plate and fill with crushed ice.

Garnish with lettuce or parsley and serve.

CHAPTER XXIX

How to Can Fruit

Fruit canning is a very simple process, but if it is perfectly successful, certain principles must be followed. In the first place all germs must be killed and excluded, and the fruit kept in as natural condition as possible.

Home canned fruits are superior to the factory article for various reasons; glass is much more safe and better in many ways than tin for canning fruit, and they are free from the strong or poisonous preservatives which many of the factories introduce.

In canning fruit care should be taken to have good cans and perfectly fitting covers; this is very important. The fruit should always be cooked in a granite-ware or enameled sauce-pan or kettle; never in tin or copper, brass or iron.

Cook slowly, as rapid boiling breaks up the fruit, and much of its fine flavor escapes.

The Mason glass jar, with the white porcelain lined covers are considered the best.

Fruit for canning should be thoroughly cooked that every portion of it will have been subjected to a sufficient degree of heat to destroy all germs within the fruit, but over-cooking should be avoided.

The time required varies with the kind and quality of the fruit.

If sugar is cooked with the fruit, it is best not to add it until a few minutes before it is done.

While the fruit is cooking place the rubbers on the jars, and immerse them in a large pan of scalding water, and gradually raise the temperature to prevent them from

breaking. Also put the covers in a basin of hot water and sterilize well, adding soda to the water.

When the fruit is well cooked, empty one of the jars and place it in a small pan, and quickly fill with the boiling fruit to overflowing. Skim off all foam or air bubbles that come to the top, and screw down the covers quickly and tightly.

Be sure that the rubber extends beyond the cover all around.

Turn the jars upside down until cold, and if preferred the top of the jars may be sealed by dipping them in hot paraffine.

602 CANNED STRAWBERRIES

Select good sound berries; those freshly picked are best. Stem them and wash by putting them in a colander and dipping carefully into a pan of clean water, letting it stand for a few minutes.

Put them into a porcelain kettle with a very small quantity of water, and heat slowly to boiling. If sugar is to be used, it is best to heat it first in the oven, but do not add it until the fruit is boiling.

One cupful of sugar is usually sufficient for one quart of strawberries, other sweet berries do not require so much.

Skim off all the froth that rises to the top, then fill the cans to overflowing as directed and turn bottom side up until cold, to make sure that they do not leak, seal them with paraffine or wax, and put away in a dark place.

The fruit is also very nice if steamed in the cans after they are filled, but it is quite a lengthy process.

The cans may be placed in a steamer or boiler with a rack in the bottom to prevent the glass cans from breaking, and steamed one hour in water enough to cover the cans.

When done screw the covers on tightly, and turn bottom side up.

603 CANNED RASPBERRIES

These are perhaps the most delicate berries and are hard to can without breaking them up. Prepare and can them the same as strawberries (No. 602), just bringing them to a boil so as not to break them. The fruit may be steamed or cooked in the cans after they are filled, but this is quite a lengthy process and may not always be convenient.

If it is desired to have the berries entirely whole, take nice ripe berries, rinse and drain, then fill cans that have been thoroughly sterilized about three-fourths full of the fruit, then fill up with a syrup made by dissolving the required amount of sugar in water—about one cup to three quarts of berries.

Cook until it begins to spin, but not hard. Seal the cans as quickly as possible, and leave on the back of the stove fifteen minutes.

If the proper care is taken in canning them, they will keep as well as if they had been cooked and will be much nicer.

604 CANNED CHERRIES

Wash, stem and cook the cherries whole or remove the pits, cover with water and add from one-half to two-thirds cup sugar to each quart of cherries according to the tartness of the cherries.

Cook until tender, and can as directed. Currants, gooseberries, blueberries, etc., may be treated in the same way.

605 CANNED PEARS

Select pears that are perfectly ripe, but not soft. Pare, cut in halves or quarters, remove the seeds and core, then drop in a dish of cold water to prevent discoloring.

Prepare a syrup by mixing one cup of sugar and two quarts of water together. When the syrup boils, put in the

pears very carefully so as not to break them, and cook until they look clear and can easily be pierced with a fork.

When the pears are harder and not ripe, they must be cooked until tender in hot water, before adding the syrup or sugar.

Care must be taken not to cook them too long, especially after the sugar is added, or they will turn red.

Have the jars hot and well sterilized, and put in first a little of the syrup, then pack in the pears very carefully; fill to overflowing with the boiling hot syrup, and finish the same as for strawberries (No. 602). Peaches, plums, pine-apples, or apples may be treated in the same way.

606 CANNED TOMATOES

These are perhaps the hardest of all fruits to keep, but if the proper care is taken in canning them, one should experience no difficulty.

Select smooth, ripe tomatoes; put into a pan, and pour boiling water over them to make the skins come off readily; then take a sharp knife and remove the cores, pare, and cut into halves or quarters.

Put into a granite kettle, add a tiny bit of water to keep them from scorching, add one-fourth teaspoon salt to two quarts of the tomatoes; cook just a few minutes after coming to a boil so as not to break them up.

Put into the cans as soon as done, and screw the covers on tightly, turn bottom side up until cold, then seal with paraffine, and put away in a dark place.

607 CANNED QUINCES

Peel and quarter the quinces and remove the cores. Cut them in thin slices.

Make a syrup of one cup and a half of sugar and one of boiling water; when it begins to boil, drop in the sliced quinces; cook until tender and clear.

Put in jars and finish the same as for strawberries (No. 602).

608 CANNED PINEAPPLES

Slice pineapples in half inch slices, then remove skin and eyes and cut in quarters, at the same time discarding the core.

Cover with hot water and cook from one to one and one-half hours, or until well done. Add sugar to taste a few minutes before they are done.

Put in jars and finish the same as for strawberries (No. 602).

CHAPTER XXX

How to Can Vegetables

Most housekeepers experience more difficulty in canning and keeping vegetables than fruit.

This need not be if great care is taken to secure perfect cans, covers, and rubbers, and the vegetables are cooked thoroughly.

Whatever is to be canned should be sufficiently cooked to be eaten.

609 CANNED PEAS

Select fresh, young and tender peas. Shell and put on to cook in cold water; cook one hour until perfectly tender, add a little salt and fill the cans and steam one hour.

Seal and put away in a cool, dry, dark place. Or shell the peas and pack into perfect cans; filling them as full as possible; add cold water to overflowing, screw on the covers tight enough to prevent water from getting into the cans.

Place the cans in a steamer or boiler which has a rack on the bottom to prevent the glass cans from breaking, and take care not to let them come in contact with each other.

Fill the boiler with cold water to completely cover the cans; bring gradually to a boil, and keep boiling steadily for four hours.

Remove from the fire, let the cans cool gradually, tightening the covers frequently as they cool. Set away in a cool, dry and dark place.

It is best to use the cold pack system for canning all vegetables.

⁶¹⁰ CANNED CORN

Select sweet corn just ripe enough for table use; run a sharp knife over each row length-wise, then scrape off with the back of a knife.

This way the hulls will all stay on the cob. Pack the corn in the cans as close as possible, so the milk will cover the corn and completely fill the can.

Screw on the covers and cook as directed for canning peas (No. 609).

The corn must be fresh picked, as it will not keep when picked several hours before canning.

⁶¹¹ CANNED STRING BEANS

Select young and tender beans, string them, and cut into inch pieces. Drop them into boiling water for a few minutes, remove and pack into cans or jars tightly, fill with cold water until every crevice between the beans is full.

Screw on the covers and cook as for canned peas (No. 609).

⁶¹² CANNED ASPARAGUS

Select young and tender asparagus; wash and drain, fill in the jars or cans neatly, heads up, place in a steamer or boiler, cook forty-five minutes, then dissolve one tablespoon salt in one gallon of boiling water, fill the jars, screw on the covers and cook two hours longer.

⁶¹³ CANNED PUMPKIN AND SQUASH

Pare, remove the seeds, and cut into pieces. Pack them into the jars or cans, add a little salt, and cook the same as canned peas (No. 609).

Or steam them, first cutting into small pieces and removing the seeds and rind.

Mash or put through a colander, add a little salt; reheat

to boiling, then fill the cans and adjust covers, set in steamer or boiler and cook one hour, then tighten the covers.

614 CANNED BEETS

Cook some small red beets in a sauce-pan as for the table. When tender rub off the skins (in a saucepan of cold water) and set into jars or cans; fill to overflowing with boiling water, adjust rubbers and covers, set in a steamer or double boiler and cook thirty minutes, then tighten the covers.

615 CANNED SWEET POTATOES

Take nice medium sized sweet potatoes and peel them, then cook in slightly salted water until nearly done. Let them cool, then pack in tins or jars, being careful not to break them, then adjust rubbers and covers, set in a steamer or double boiler and cook thirty minutes, then tighten the covers.

616 CANNED SPINACH

Take nice tender spinach and wash thoroughly, drop in boiling salted water and boil five minutes. Remove from the water with a skimmer to remove all the water, then pack into cans or jars, then adjust covers, set in steamer or double boiler and cook one hour, then tighten the covers.

CHAPTER XXXI

Sandwiches

In making sandwiches, as in all other foods, good results depend upon good material to work with. If raised bread is used as the foundation; it should be well baked and at least one day old, and the slices should be cut very thin. When wafers or rolls are used, they should be fresh. Almost any viands may be used in making something novel in the way of the ever popular sandwich.

Sandwiches should be very small and dainty, and always tastefully arranged on the dish. They may be made into a variety of shapes, as oblong, squares and triangles or cut into fancy shapes with cutters; such as stars, crescents and circles.

⁶¹⁷ PROTOSE AND EGG SANDWICHES

- | | |
|------------------------|-------------------------------|
| 1 tbsp. minced protose | Salt and celery salt to taste |
| 1 tsp. lemon juice | 1 hard boiled egg |

Chop the egg fine or put through a colander, mix all together, then spread on thin slices of buttered bread, and cut into shapes desired.

A lettuce leaf may be put between the slices if desired.

⁶¹⁸ FRUIT SANDWICHES, No. 1

Prepare an orange jelly (No. 315) or lemon jelly (No. 317).

Mold in shallow tins of uniform size. Prepare a stiff marmalade of equal parts of figs and dates and English walnuts ground fine or pressed through a colander, and mixed with a little lemon juice.

Arrange the jelly and marmalade in alternate layers,

having three layers of jelly and two of marmalade; serve with whipped cream or beaten meltose.

619 PROTOSE SANDWICHES

$\frac{1}{4}$ cup minced protose	2 thin slices of bread
2 tbsp. mayonnaise dressing	1 lettuce leaf
(No. 518)	

Spread the bread with the salad dressing, and lay the two slices together; placing the lettuce leaf between the two slices of bread.

620 FIG SANDWICHES

Spread thin slices of bread with butter, and place between them a layer of fig marmalade (No. 692) and serve.

621 DATE SANDWICHES

Cut two slices of bread about one-fourth inch thick, and spread with dairy or nut butter; put between the slices a filling made by chopping fine some dates, moistened with water and lemon juice to form a paste.

622 ONION SANDWICHES

Spread thin slices of bread with butter and then with very thin slices of onions between. Cut into any shape desired and serve at once.

623 HONEY AND NUT SANDWICHES

$\frac{1}{2}$ cup honey	$\frac{1}{2}$ tsp. lemon juice
$\frac{1}{2}$ cup finely chopped nuts	

Mix all together to make a stiff paste. Spread on thin slices of buttered bread, place two together and cut into any shape desired.

624 OLIVE AND EGG SANDWICHES

2 hard boiled eggs ½ cup olives
2 tbsp. mayonnaise dressing.

Put the eggs through a fine colander and chop the olives very fine, then mix all together and spread on thin slices of buttered bread and cut into any shape desired.

625 NUT AND OLIVE SANDWICHES

½ cup rolled nuts ½ cup olives
1 tbsp. sugar ¼ cup water

Chop the olives very fine, then boil the sugar and water together for five minutes and mix all together.

Spread on thin slices of buttered bread and cut into any fancy shape desired.

626 DATE AND NUT SANDWICHES

½ cup dates ¼ cup rolled nuts

Chop the dates fine and mix with the nuts, then make the same as nut and olive sandwiches (No. 625).

627 DATE AND OLIVE SANDWICHES

½ cup dates ½ cup olives
1 tbsp. sugar ¼ cup water

Chop the olives very fine, then chop the dates fine and mix with the syrup as directed for nut and olive sandwiches (No. 625).

628 EGG SANDWICHES

3 hard boiled eggs ⅛ tsp. celery salt
1 tsp. lemon juice Salt to taste
1 tsp. finely chopped parsley

Chop the eggs or put through a colander, and mix with the other ingredients; spread on thin slices of buttered bread, cut into any shape desired and serve.

629 JELLY SANDWICHES

Spread three thin slices of buttered bread with a liberal layer of good jelly; trim the edges, cut into fancy shapes and serve at once.

630 NUT SANDWICHES

$\frac{1}{2}$ cup minced protose	1 hard boiled egg
$\frac{2}{3}$ tsp. celery salt	$\frac{1}{2}$ tbsp. lemon juice
2 tbsp. chopped nuts	Salt to taste

Put the egg through a colander, then mix all the ingredients together; spread on thin slices of buttered bread, cut into any shape desired and serve.

631 CALCUTTA SANDWICHES

1 cup protose	$\frac{1}{4}$ tsp. celery salt
$\frac{1}{4}$ cup nuttolene	$\frac{1}{2}$ tsp. lemon juice
1 tbsp. nut butter	Salt to taste

Emulsify the nut butter in a little cold water until smooth; mince the protose and nuttolene fine, then mix all together.

Butter three thin slices of bread; spread the filling between the first two slices and a lettuce leaf and jelly between the next layer; cut into any fancy shapes desired and serve at once.

632 FRUIT SANDWICHES, No. 2

$\frac{1}{2}$ cup date marmalade	2 tbsp. apple sauce
1 tbsp. peach marmalade	$\frac{1}{2}$ cup prune marmalade

Mix all together; then spread thin slices of bread with butter and the filling; use three slices.

CHAPTER XXXII

Nut Preparations

NUTS AND THEIR VALUE AS A FOOD

Nuts are usually described as a fruit, consisting of seeds enclosed in a hardy shell that does not open when ripe.

They are usually the fruit of shrubs or trees, but the tubers of some plants are also called nuts on account of their resemblance to the nuts in taste, and richness in fats.

Of all foods given to man nuts contain the most fat, and in a form much easier of digestion than animal fats, because the fats of animals are free fats and will not mix with water, but nuts freely mix with water and form an emulsion.

Nuts also contain other nutritious elements, such as protein, carbohydrates, and salts. They are one of the most nutritious foods, and the one that most fully takes the place of meat in the system.

In nutritious value and digestibility nuts far exceed all flesh meats, and are not so likely to be diseased.

For example: Beefsteak has a total of 28 per cent nutrient, while peanuts have a total of 79 per cent nutrient.

In fact, one pound of peanuts is equal in nutritive value to more than two and one-half pounds of beefsteak.

Nuts contain but little starch, with the exception of the chestnut and the almond.

633 PEANUT BUTTER

Process No. 1.

Put a layer of peanuts about one-half inch deep in a dripping pan and place on perforated shelf in a moderate oven; sprinkle with a little water and allow them to bake slowly for about an hour, or until they are a light brown or straw color.

Shake the pan or stir the peanuts every few minutes, or fill a tight covered dish about two-thirds full, place in the oven and shake occasionally. When cooked this way they are not so liable to burn and retain their flavor better.

When they are cooked sufficiently, spread out at once to cool, then blanch as follows: This can be done by rubbing them in the hands or a coarse bag, or a screen made of coarse wire; rub until their skins are loose.

The chaff can be removed by using a fan or by pouring them from one dish to another where the wind blows; look them over carefully, and remove the defective nuts and foreign substances.

Grind them through a meat chopper or nut butter mill (the Quaker City Mill is the best for family use).

Process No. 2.

Thoroughly heat the nuts in the oven, but do not let them brown, blanch as directed in process No. 1, and grind, then cook them in a double boiler or steam cooker from four to six hours.

Season with salt and use as preferred.

634 NUT BUTTER FOR THE TABLE

Put some nut butter into a bowl and dilute with an equal quantity of cold water, adding a little at a time, beating thoroughly with a fork until it is smooth and light.

It should be the proper consistency to spread nicely.

When mixed with water, nut butter will keep only a few hours. A little salt may be added if desired.

635 COCONUT BUTTER

Take a good, fresh coconut, break it in two, grate the center or white part fine; put in a sauce pan and cover well with cold water, cook ten minutes after coming to a boil, then strain through a cloth napkin, pressing out all the liquid.

Set the water that has been strained, in a cool place, and the butter will rise to the top and harden.

When ready to use emulsify with a little water to the consistency desired.

⁶³⁶ SALTED ALMONDS

Blanch almonds by putting them into boiling water, cover and leave in fifteen minutes, cool off the water, then the skins can be slipped off very easily, sprinkle the almonds with a little salt and a few drops of pure olive oil or melted butter.

Stir them well so that the salt and oil or butter will adhere to the almonds, place in the oven and brown very slightly.

⁶³⁷ SALTED PEANUTS

Take some shelled peanuts and cover with cold water and drain. Then put in a granite pan, sprinkle with fine table salt, and bake in a moderate oven until they are perfectly dry and crisp.

⁶³⁸ SALTED PINENUTS

Moisten the nuts with water, drain, and sprinkle with salt, mixing it in well. Then place in the oven until a golden brown.

CHAPTER XXXIII

Food for the Sick

⁶³⁹ LIQUID AND SEMI-SOLID FOODS

These simple foods, the basis of which is some grain, take an important place in the dietary for the sick if properly prepared.

But if improperly prepared are scarcely better than nothing at all.

Gruels, like other dishes prepared from grains, need a long continuous cooking. When done it should be the very essence of the grain, possessing all the nutritive qualities, but in such a form as to be readily assimilated.

⁶⁴⁰ BARLEY GRUEL

1½ pt. water

½ tsp. butter

2 tbsp. pearl barley

Have the water boiling, then add the barley, and cook from three to six hours, filling up with water as it boils away. Put through a fine colander, season with butter and salt to taste.

Milk or cream may be added if preferred.

⁶⁴¹ CORNMEAL GRUEL

3 tbsp. cornmeal

½ tsp. butter

3½ cups water

Have the water boiling, then stir in the cornmeal and cook from one to three hours, being careful not to let it stick to the bottom of the dish; or cook in a double boiler for about six hours, then add butter and salt to taste. Cream may also be added if preferred.

A quick way to make it; take some cooked cornmeal

mush, thin down to the right consistency, season to taste and serve hot.

⁶⁴² GLUTEN GRUEL

1 pt. water 3 heaping tbsp. 20 per cent gluten meal

Heat water to boiling, then stir in the gluten and cook a few minutes until thickened; salt to taste and serve hot.

Milk or cream may also be used instead of water.

⁶⁴³ GRAHAM GRUEL

2 cups water $\frac{1}{3}$ tsp. butter
 $\frac{2}{3}$ cup graham flour

Heat water to boiling, then stir in the flour; cook a few minutes, then place in a double boiler and cook from two to three hours.

When done, strain, season with salt and serve hot.

⁶⁴⁴ RICE GRUEL

3 tbsp. rice 1 pint water
 $\frac{1}{2}$ tsp. butter

Heat water to boiling, then wash the rice well and add. Cook from twenty to thirty minutes; put through a colander, add enough water or cream to make it the consistency of rich cream; heat to boiling, add butter and salt to taste.

⁶⁴⁵ RICE FLOUR GRUEL

1 pt. water $\frac{1}{2}$ tsp. butter
1 tbsp. rice flour

Heat water to boiling, then stir in the rice flour, cook for thirty minutes; then add butter and salt to taste.

A little coconut butter will improve it.

⁶⁴⁶ POTATO MEAL GRUEL

1 pt. water $1\frac{1}{2}$ tbsp. potato meal
1 tsp. salt $\frac{1}{4}$ tsp. butter or coconut butter

Heat the water to boiling, then stir in the potato meal, and cook about fifteen minutes; add butter and salt to taste, and serve hot.

To make savory gruel, add celery salt, and a little onion juice, and a little tomato juice if preferred.

647 POTATO GRUEL

1 cup water

$\frac{1}{4}$ tsp. butter

2 tbsp. mashed potatoes

Mix water and potatoes well together, then add butter and salt to taste. Strain through a fine strainer and heat to boiling.

Milk may be used if preferred.

648 ALBUMENIZED GRUEL

1 cup water

1 egg white

2 tbsp. gluten meal

Heat the water to boiling, and stir in the gluten and cook a few minutes. Cool off a little, and pour over the beaten egg white.

649 ALBUMENIZED MILK

1 cup milk

1 egg white

Heat the milk, then pour over the well beaten egg white, add a little salt if desired. It may also be made with cold milk if preferred.

650 PROTOSE BROTH

1 pt. protose

1 qt. cold water

Cut the protose into small pieces, boil in the water from one to three hours; then strain through a fine strainer, salt to taste and serve hot.

If preferred a little celery salt and thyme may be added.

⁶⁵¹ HOT MALTED NUTS

1 cup water

3 tbsp. malted nuts

Heat the water to boiling, then sprinkle in the malted nuts; boil up well and stir to prevent lumping. May be served with or without salt as preferred.

⁶⁵² HOT MALTED MILK

1 cup water

2 tbsp. Horlicks malted milk

Heat the water to boiling, then sprinkle in the malted milk, and stir well and salt to taste. Do not boil after the milk is added, but serve at once.

⁶⁵³ GRANOSE GRUEL $\frac{1}{2}$ cup granose flakes $\frac{1}{4}$ tsp. butter

1 cup cold water

Add the flakes to the water, and cook a few minutes; replenish the water as it boils away, put through a strainer, season with butter and salt to taste.

A little coconut butter may be added if preferred.

⁶⁵⁴ TOMATO GRANOSE GRUEL $\frac{1}{2}$ cup granose flakes $\frac{1}{4}$ tsp. butter

1 cup tomato juice

Make the same as granose gruel (No. 653); using tomato juice instead of water.

⁶⁵⁵ BARLEY WATER

1 tbsp. pearl barley

3 cups boiling water

Have the water boiling, then add the barley, and cook a few minutes, then place in a double boiler and cook four hours; strain, salt to taste and serve hot or cold. This is a very nourishing drink.

⁶⁵⁶ GRANOLA GRUEL

2 tbsp. granola

1 $\frac{1}{4}$ cups cold water

Put the granola on the stove and cook in the water for half an hour or until the granola is soft. Put through a colander, and if the gruel is wanted very smooth, strain again through a strainer, salt to taste and serve hot.

⁶⁵⁷ GRANOLA WATER

1 tbsp. granola

1 cup cold water

Put the granola to soak in the water from six to twelve hours; strain and season to taste, or cook in a double boiler three hours, strain and season to taste.

⁶⁵⁸ ALMOND MILK

1 cup water

 $\frac{1}{4}$ tsp. white flour $\frac{1}{2}$ tbsp. almond butter

Dissolve the almond butter in the water; heat to boiling, add the flour—rubbed smooth in a little cold water.

Cook ten minutes; strain through a fine strainer, salt to taste and serve hot or cold.

⁶⁵⁹ TOAST BROTH

1 cup cold water

 $\frac{1}{2}$ tsp. butter

2 slices whole wheat toast

Have the toast dark brown, but not scorched. Then put in a dish, add water and bring to a boil; strain and season to taste.

⁶⁶⁰ OATMEAL GRUEL

2 tbsp. oatmeal

1 pt. water

Heat the water to boiling, stir in the oatmeal, cook until it begins to thicken, then set in a double boiler and cook three or four hours; put through a fine strainer, salt to taste and serve hot.

⁶⁶¹ OATMEAL WATER

2 tbsp. oatmeal

1 qt. cold water

Stir the oatmeal in the water, then put on to cook for half an hour from the time it begins to boil, filling up with water as it boils away; strain through a fine strainer, but do not mash.

Salt to taste and serve hot or cold.

⁶⁶² RICE WATER

2 tbsp. rice

1 pt. cold water

Wash the rice well, put into a sauce pan with the water and boil half an hour. Strain off the water, salt to taste and serve hot.

⁶⁶³ ALBUMEN WATER

1 cup water

1 egg white

Pinch of salt

Heat the water to about 140 degrees F., and pour over the slightly beaten egg white, beating all the time.

Cold water may be used if that is preferred, and the salt omitted.

CHAPTER XXXIV

Beverages

⁶⁶⁴ LEMON-ADE

1 cup water

2 tsp. sugar

2 tsp. lemon juice

Wash the lemons, squeeze the juice into a glass, strain so as to remove all seeds and particles.

Add sugar and cold or hot water as preferred, and stir until the sugar is dissolved.

⁶⁶⁵ ALBUMENIZED LEMON-ADE

$\frac{2}{3}$ cup water

1 $\frac{1}{2}$ tsp. sugar

2 tsp. lemon juice

1 egg white

Mix lemon juice, sugar and water together, then pour over the slightly beaten egg white, stirring well; strain through a napkin, put in a glass and serve cold.

⁶⁶⁶ EGG LEMON-ADE

2 tsp. lemon juice

2 tsp. sugar

2 eggs

$\frac{1}{3}$ cup water

Mix the lemon juice, sugar and hot water together, then pour over the well beaten eggs, stirring well.

Put in a glass and serve at once. Fruit juice may be substituted for the lemon juice.

⁶⁶⁷ ORANGE-ADE

3 tbsp. orange juice

$\frac{3}{4}$ cup water

1 tsp. sugar

Mix the orange juice, sugar and water together, put in a glass and serve hot or cold. A little lemon juice and a little more sugar may be added if desired to have a little more tart flavor.

668 EGG ORANGE-ADE

2 tbsp. orange juice	$\frac{1}{3}$ cup water
1 tsp. sugar	2 egg whites

Mix the orange juice, sugar and water together, then pour over the well beaten eggs, stirring well.

Put in a glass and serve at once. Fruit juice may be substituted for the orange juice.

669 PINEAPPLE-ADE

$\frac{1}{2}$ cup water	$\frac{1}{2}$ cup pineapple juice
2 tsp. sugar	1 tsp. lemon juice

Mix the juice, sugar and water together, put in a glass and serve hot or cold.

670 GRAPE FRUIT-ADE

$\frac{2}{3}$ cup water	3 tbsp. grape fruit juice
$1\frac{1}{2}$ tsp. sugar	1 tsp. lemon juice if desired

Mix the juice, sugar and water together, then put in a glass and serve hot or cold as preferred.

671 FRUIT NECTAR

1 qt. water	2 tbsp. lemon juice
$\frac{3}{4}$ cup sugar	$\frac{1}{2}$ cup grape juice
$\frac{1}{4}$ cup cherry juice	2 cups black raspberry juice

Mix lemon juice and sugar together, then add the fruit juice and water. Serve cold.

Various nectars and refreshing drinks may be made by mixing different kinds of fruit juices together.

672 GRAPE NECTAR

1½ cups grape juice

2 cups water

½ tbsp. lemon juice

½ cup sugar

Mix lemon juice and sugar together, then add grape juice and water.

Serve cold. If desired, the grated lemon rinds may be added, and before serving removed by straining.

673 HEALTH COCOA

¾ cup cream

2 tbsp. health cocoa

1½ cups sugar

1 cup boiling water

Stir together well the cocoa and sugar, add the water and mix thoroughly, then add the cream, and boil about ten minutes.

674 BAKERS BREAKFAST COCOA

1 tsp. cocoa

½ cup boiling water

1 tsp. sugar

½ cup cream

Stir together well the cocoa and sugar, add the water and mix thoroughly, then add the cream and boil ten minutes.

675 CARAMEL CEREAL

1 tbsp. caramel cereal

1½ cups cold water

Put the caramel cereal in the coffee pot and add the water; or it is best put in a small bag made of cheese cloth, tie up loosely so as to give it plenty of room to swell.

Cook slowly after it comes to a boil for at least thirty minutes, when it is ready to serve.

The strength and flavor of caramel cereal are developed by long boiling.

676 CRUST COFFEE

1½ tbsp. crust coffee 1 cup boiling water

Brown slices of whole wheat bread in the oven until hard and a dark brown; then grind through a mill.

Put the required amount in the coffee pot and add the water; steep a few minutes, strain and serve.

677 CEREAL COFFEE

2 cups wheat bran 1 cup cornmeal
½ cup oatmeal Pinch of salt
1 tsp. butter ½ cup molasses

Mix cornmeal and molasses together, then mix all thoroughly; spread out thin in a pan and brown in the oven until a dark brown, then grind through a mill.

Put two tablespoons for each cup of water in the coffee pot, and boil from fifteen to thirty minutes.

678 GRAPE JUICE

Select good ripe grapes, stem and wash them well; add a little water and bring slowly to a boil, strain and return to the fire, boil up again and sweeten to taste.

Pour the boiling juice into well sterilized cans or bottles and seal immediately. The sugar may be omitted if desired.

Other fruits, such as strawberries, currants, cherries, plums, raspberries or cranberries may be treated the same way.

679 GOLDEN NECTAR

1 cup orange juice ½ cup pineapple juice
½ cup peach juice ⅓ cup lemon juice
½ cup sugar 2 cups water

Strain the orange and lemon juice and add to the pineapple and peach juice. Then add the sugar and water. Stir and serve cold.

CHAPTER XXXV

Egg-Nogs

680 PLAIN EGG-NOG

2 eggs	$\frac{1}{2}$ tsp. sugar
A few grains of salt	Flavor to taste

Add sugar salt and flavor to the eggs, beat until stiff, put in a glass tumbler and serve at once.

The eggs may be separated and put in layers or rings in the glass if desired.

681 ORANGE EGG-NOG

2 eggs	2 tsp. orange juice
1 tsp. sugar	A few grains of salt

Make the same as plain egg-nog (No. 680). Using orange flavor.

682 LEMON EGG-NOG

2 eggs	$1\frac{1}{2}$ tsp. sugar
1 tsp. lemon juice	A few grains of salt

Make the same as plain egg-nog (No. 680). Using lemon flavor.

683 MILK EGG-NOG

1 egg	$\frac{1}{2}$ tsp. sugar
3 tbsp. milk or cream	A few grains of salt

Lemon or vanilla flavor to taste

Add sugar and salt to the eggs, beat until very light, stir in the milk and flavor, and serve at once.

684 FRUIT EGG-NOG

1 egg

Make the same as milk egg-nog (No. 683). Using fruit juice instead of milk.

685 SNOW EGG-NOG

2 egg whites
A few grains of salt

$\frac{1}{2}$ tsp. sugar
Flavor to taste

Add salt to the eggs, beat until very light, then stir in the sugar and flavor.

Pile up in a glass tumbler and serve at once. Very nice with orange juice or meltose.

CHAPTER XXXVI

Jellies and Marmalades

⁶⁸⁶ CRANBERRY JELLY

Look over and wash clean one quart of good cranberries; cover with boiling water, cover the dish and let stand five minutes, then drain, and cook in a small quantity of water, let them boil only five minutes. Put through a colander, then through a fine strainer to remove the seeds.

Put on the stove, and when it comes to a boil, add equal parts of sugar and cook eight minutes after it comes to a boil. Put in jelly glasses, or jars and seal.

If a clear jelly is desired, strain the berries instead of putting them through a colander and use only the juice for jelly.

⁶⁸⁷ GRAPE JELLY

Select good ripe grapes, stem and wash them well; add enough water to half cover them, bring slowly to a boil, strain, then return to the fire, and cook until it jellies, which should take only a few minutes.

It is always best to heat the sugar in the oven before adding.

Pour out in jelly glasses or glass jars and seal.

⁶⁸⁸ APPLE JELLY

Select good tart apples remove the stems and blossom ends, wash, quarter, but do not pare or core, and put to cook in a porcelain kettle with a very little water.

Cook slowly until tender, then strain through a jelly bag; return the juice to a clean sauce pan; boil for half an hour, then add two parts of sugar to one part of juice.

Boil until it sinks to the bottom when dropped in cold water. Pour in glass jars and seal.

⁶⁸⁹ CRAB-APPLE JELLY

Make the same as apple jelly (No. 688), using crab-apples instead of apples.

⁶⁹⁰ CURRANT JELLY

Pick the currants over; put in a kettle with enough water to half cover them, cook a few minutes, or until reduced to half its quantity, add equal parts of sugar and boil fifteen minutes more, skimming off all scum that may rise to the top.

It is best to have the sugar hot before adding. Pour into glasses while hot or seal in glass jars like canned fruit.

⁶⁹¹ STRAWBERRY OR RASPBERRY JELLY

Clean the berries, wash and put in a granite kettle with water enough to half cover them; bring to a boil, then drain through a jelly bag. Put the juice on the fire and boil until reduced to half its quantity, then add equal parts of sugar, and boil fifteen minutes more, or until it sinks to the bottom when dropped in cold water.

Skim off all scum that may rise to the top. Pour into glasses, while hot, or seal in jars like canned fruit.

⁶⁹² STRAWBERRY JAM

Clean the berries, wash and put in a stew kettle with equal parts of sugar and a very little water; boil for half an hour, removing all scum that may rise to the top.

Put in glass cans, seal and keep in a cool place.

Raspberries, currants, blackberries, or any other berries may be prepared in the same way.

693 FIG MARMALADE

Take nice and good figs, cut off the stems and defects; wash well, put in a stew pan, cover with hot water and gently stew until tender, and the water has all cooked away, then put through a colander.

Use for sandwiches, or in any way desired. A little sugar or meltose may be added if desired.

694 DATE MARMALADE

Take nice dates, wash in cold water, put in a stew pan, cover with hot water and gently stew until tender and the water has all cooked away, then put through a fine colander, and serve in any way desired.

If desired to have them a little sweeter, add a little sugar or meltose.

695 ORANGE MARMALADE

1 doz oranges 1 qt. sugar 1 lemon

Measure the juice and add enough water to make a quart and a half of liquid. Put into a stone vessel, cover and let stand all night.

The oranges and lemons should be sliced and seeded before adding to the liquid in preserving kettle, bring slowly to a boil and simmer until the peel is tender; now add the sugar and boil until the skin looks clear. Take from the fire, and when cool, pour into glasses.

696 PRUNE MARMALADE, NO. 1

2½ lbs. prunes Juice of 2 lemons
1 cup sugar 6 large cooking apples

Pare the apples, plunge in cold water, then put over the fire with the lemon juice and sugar; taking care that there is sufficient water to keep them from burning.

Pour scalding water over the prunes, then wash thoroughly in cold water. Cover with cold water and soak over night; in the morning put on the stove (in the same water they were soaked in) and cook slowly from two to six hours until perfectly tender (not mushy) and a rich syrup forms.

Put through a colander, and add to the apples; heat to boiling, then put in glasses or jars and seal or use.

⁶⁹⁷ PRUNE MARMALADE, NO. 2

Prepare and cook prunes as directed in recipe (No. 696), drain off all the juice, then put the prunes through a colander, add a little sugar if desired and serve.

⁶⁹⁸ FRUIT MARMALADE

1 cup apples

1 cup cranberries

1 qt. sugar

1 cup peaches

$\frac{1}{2}$ cup prunes

1 tsp. lemon juice

Cook the fruit, then put through a colander; mix all together, put in a stew pan and cook down to nearly half its quantity and of a dark brown color.

Put up in glass cans and seal or use as preferred. Very nice for sandwiches.

CHAPTER XXXVII

Confectionery

⁶⁹⁹ COCONUT CANDY

- | | |
|-----------------------------|--------------------------|
| 1 cup coarse grated coconut | 2 tbsp. water |
| 1 cup granulated sugar | A few drops lemon flavor |

Dissolve sugar in the water; let it come to a boil, then stir in the coconut and flavor, stir and let it boil until it becomes hard when dropped in cold water.

Pour in a buttered pan and cut into the desired forms before it becomes hard.

⁷⁰⁰ PEANUT CANDY

- | | |
|------------------------|--------------------------------|
| 2 tbsp. water | 1 cup slightly roasted peanuts |
| 2 tbsp. butter | 1 cup brown sugar |
| 1 cup granulated sugar | |

Clean the peanuts carefully of their thin husks, and spread in a buttered pan; then cook sugar, water and butter together until it threads or becomes hard when dropped in cold water.

Stir briskly for a minute, then pour over the peanuts about an inch deep. Before it is entirely cool, cut into the desired squares with a large knife or candy cutter.

⁷⁰¹ BUTTER SCOTCH

- | | |
|--------------------------|----------------------------|
| 1 cup sugar | $\frac{1}{4}$ cup molasses |
| $\frac{1}{2}$ cup butter | 1 tbsp. lemon juice |
| 2 tbsp. boiling water | |

Boil together until it becomes brittle when dropped in cold water.

Pour into a buttered pan; when slightly cool, mark with a sharp knife in squares. Flavor with vanilla if desired.

702 CHOCOLATE CARAMELS

1 cup milk	$\frac{1}{2}$ cup cream
1 pt. sugar	$1\frac{1}{2}$ tbsp. grated chocolate

Mix all together, stir until melted, then cook until the mixture hardens when a little is dropped in cold water.

Pour into a buttered pan and mark in squares when almost cold.

703 POP-CORN BALLS

2 cups sugar	2 tbsp. butter
1 cup water	3 qts. popped corn

Mix water, sugar and butter together in a sauce pan, and boil until the syrup threads.

Mix in the popped corn, stir, take from the fire, and stir until cool; make into balls, or pour out into a buttered pan before it is cool, and when nearly hard cut into squares.

704 PULLED TAFFY

$\frac{1}{2}$ cup water	2 cups white sugar
1 tsp. butter	2 tbsp. lemon juice

Boil the sugar and water without stirring until it hardens when dropped in cold water, add the butter and lemon juice just before it is done.

Flavor with lemon or vanilla extract, then pour into buttered soup plates, when cool enough to handle pull until it is white and hard.

Cut into pieces as desired.

705 CHOCOLATE FUDGE

1 cup sugar	2 squares chocolate
2 egg whites	$\frac{1}{2}$ cup cream
$\frac{1}{2}$ tbsp. butter	$\frac{1}{4}$ tsp. vanilla

Mix all together; boil ten minutes or until it holds well together when dropped in cold water.

Remove from the fire, flavor, pour over the beaten eggs then beat about five minutes until thick and creamy; put into an oiled pan and set away to cool.

Before it is hard cut into any size pieces or squares desired. The eggs may be omitted.

706 CANDIED FRUIT

To candy fruit for immediate use, make a syrup which will crackle in a glass of cold water.

Dip each piece of fruit with a fork into the taffy, then drop into a plate of powdered sugar. Use a spoon to dip juicy fruit.

When you wish to keep it for some time, put a layer on waxed paper and sprinkle thickly with granulated sugar.

Place in the sun to dry. When dry make a syrup as before; add the fruit and stir with a wooden spoon until the syrup begins to grain and stick to the fruit.

When cold, sift sugar over, and dry again. Put sheets of waxed paper between each layer and on top.

707 GLAZED GRAPES

$\frac{1}{2}$ cup water

1 tbsp. sugar

1 tbsp. lemon juice

Boil the water and sugar to a syrup. Do not stir; when a little is brittle in iced water, take from the fire and set in the inner vessel of a double boiler, having boiling water in the outer vessel, then add the lemon juice.

Run a stiff straw or a thin wire through each grape and dip each into the syrup, then lay on waxed paper to dry.

708 CHOCOLATE MACAROONS

2 egg whites

3 tbsp. sugar

3 tbsp. flour

$\frac{1}{4}$ tsp. vanilla

1 tsp. powdered chocolate

Beat the eggs to a stiff froth, add sugar and vanilla; then fold in the flour, and last of all add the chocolate, stirring as little as possible.

Put on an oiled pan in teaspoonfuls so they will not touch each other, and bake in a medium hot oven for fifteen minutes.

709 NUT BROMOSE

1 cup malt extract or meltose	1 cup gluten meal
1/2 pound seeded raisins chopped fine	
2 cups peanut butter	

Mix well together, then roll out one half inch thick and cut in one inch squares.

710 FIG BROMOSE

1 cup stewed figs	1/4 cup peanut butter
1 cup gluten meal	1/4 cup meltose

Mix well together (the figs should be put through a colander). Then knead thoroughly, roll out one half inch thick and cut in one inch squares and serve.

711 POP-CORN CRISP

1 lb. sugar	1/2 lb. glucose or karo
1/4 cup water	1 tbsp. dark molasses

Put the sugar, glucose and water into a kettle. Cook to 280° F. to 290° F., then add the molasses, stir good half a minute and set kettle off and add one tablespoon butter and teaspoon fine salt; now pour in all the popped corn you can possibly get in the kettle and stir until it is well covered. Now set the kettle on the fire for only half a minute so as to warm the bottom of the kettle; now turn it all out on the slab and spread it out evenly, then with a smooth board press it very light.

When cold break up in medium sized pieces.

Puffed rice or puffed wheat may be used instead of pop-corn, first made crisp in the oven.

712 DIVINITY FUDGE

2½ cups sugar	½ cup white syrup
1 cup water	2 egg whites
½ cup chopped nutmeats	1 tsp. vanilla

Boil sugar, syrup and water until it forms a firm ball in cold water. Pour half of the syrup slowly over the stiffly beaten eggs, and beat briskly all the while. Boil the remainder until it threads, or cracks, in cold water; and turn in slowly, beating constantly, and stir in the nutmeats. Turn out in a buttered tin and cut in squares when cool.

CHAPTER XXXVIII

Miscellaneous

⁷¹³ KITCHEN HINTS

Do not litter up a kitchen any more than you can help while getting a meal. It will take hours to straighten up after the meal is over.

Do not lay a greasy spoon on the table; but lay it on a plate or in a dish. It will leave a stain that will take hard work to remove.

Do not pour boiling water over china that is piled in the dish pan; for it is apt to creack from sudden contraction and expansion.

Do not use knives for scraping pots and pans if you have any respect for either knives or pans.

Do not pour boiling water and soap on greasy spots; but moisten them first with a cold saturated solution of soda, then scrub them with cold soap-suds.

Do not crumple up your dish towels. Rinse them and hang them in the sun or a place where they will dry.

⁷¹⁴ PREVENTION OF COOKING ODORS

Odors from cooking can be prevented to a great extent by tying up in a linen bag a lump of bread about the size of a large egg, and placing it in the pot with the boiling onions, greens, etc.

This will absorb the gases which oftentimes send such an offensive odor to the regions above.

A few pieces of charcoal put in the pot will also stop the unpleasant odor which generally fills the house when green vegetables or onions are cooked.

721 HOW TO REMOVE A GLASS STOPPER

Pour hot water over the neck of the bottle. The heat causes the glass to expand, and it then being considerably larger than the stopper, readily releases the latter.

722 HOW TO BROWN RICE

Spread a pint of rice on a shallow baking tin, put in a moderately hot oven, and brown until the kernel is of a yellowish brown, or straw color.

It will be necessary to stir the rice frequently to prevent burning and to secure a uniformity of color.

723 HOW TO BROWN FLOUR

Spread white flour in a pan about one-third of an inch thick, put in a medium hot oven, and brown until it is of a yellowish brown, or straw color, throughout.

It will be necessary to stir the flour often to prevent burning and secure uniformity of color.

It will keep almost indefinitely in clean jars.

724 TOASTED BREAD CRUMBS

A good way to use up your pieces of stale bread is to toast them in the oven until dry and brown; then grind through a mill, or crush them with a rolling pin.

Keep in a glass jar, cover until needed. Excellent for roast or to cover anything that has to be dipped in eggs.

Broken crackers may be used in the same way.

725 HOW TO CLEAN SILVERWARE

Rub with soft leather or chamois and prepared chalk and pure water. Soap will dull the lustre of silverware.

⁷²⁶ HOW TO CLEAN CUT GLASS

After washing cut glass articles, let them dry, and rub with prepared chalk and a soft cloth or a brush.

⁷²⁷ HOW TO REMOVE PAINT OR VARNISH

Oil of turpentine or benzine will remove spots of paint, varnish, or pitch from white or colored cotton or woolen goods.

After using it, they should be washed in soapsuds.

⁷²⁸ HOW TO MAKE ZWIEBACK

Zwieback or twice-baked bread is one of the most wholesome foods when properly made of good sweet bread.

Toast or zwieback made by simply browning fresh slices of bread before a hot fire is not wholesome. When made in this manner, the inner part of the slice will be in the same condition as if it were new bread, and will, consequently, be difficult to digest.

To make good zwieback, the slice should be cut about one-half inch thick. Toast in a slow oven until it is thoroughly dried out; then increase the heat for a few minutes until it is a golden brown.

At this point it needs careful watching, for being dry it will burn quickly. Zwieback can be kept indefinitely in a dry place, and by simply reheating is always ready for use.

⁷²⁹ HOW TO PRESERVE THE COLOR OF GREEN VEGETABLES

A lump of sugar put in to boil with green vegetables will preserve their color and improve their flavor, especially that of green peas.

730 HOW TO CLEAN TINWARE

Dampen a cloth, dip in soda, rub the ware quickly, after which wipe dry.

731 TO FRESHEN TASTELESS NUTS

When nuts become dry and tasteless from being kept for some time, they may be freshened by soaking them in lukewarm water.

This applies to all sorts of nuts, and it is surprising to see how they are improved.

732 TO TEMPER A LAMP CHIMNEY

To temper lamp chimneys, put them in cold water, bring to a boil, and let the water cool.

733 CARAMEL

1 cup sugar

$\frac{1}{3}$ cup water

Put the sugar in a pan and heat until dissolved and a real dark brown, but not burned; add the boiling water, and cook a few minutes until the consistency of syrup.

734 TO CLEAN KNIFE HANDLES

Half a lemon dipped in salt and rubbed on discolored ivory knife handles will restore them to their original whiteness.

After doing this, wash the knives in hot water.

735 HOME-MADE GRANOLA

2 qts. flour

4 tbsp. butter

1 pt. oatmeal

$\frac{1}{2}$ cup white cornmeal

2 tbsp. sugar

3 tsp. salt

$3\frac{1}{2}$ cups water

Mix dry, then add water and mix into a stiff dough, roll out thin, cut in strips, and bake to a golden brown.

Then grind through a mill or food chopper quite coarse, when it is ready for use.

736 TO HULL CORN

2 gal. water

1 tbsp. concentrated lye

3 qts. white corn

Dissolve the lye in the water, add corn, and boil until the hulls will rub off. Wash and rub in several clear waters until the hulls are all off.

Then put on to cook in cold water, and parboil several times, until all the lye is boiled out. Put to cook in boiling water; cook for twelve hours in a double boiler.

737 BROWN ONION FLAVOR

2 onions

1 tbsp. butter

1 cup water

Chop the onions fine and put in a pan with the butter. Put in the oven or over a slow fire until the onions are dark brown, then add the water and let cook for thirty minutes. Strain through a fine strainer and use for flavoring soups and gravies.

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